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NATIONAL DAM SAFETY PROGRAM, MOON VALLEY DAM (MO 11597), MISSOU--ETC(U)
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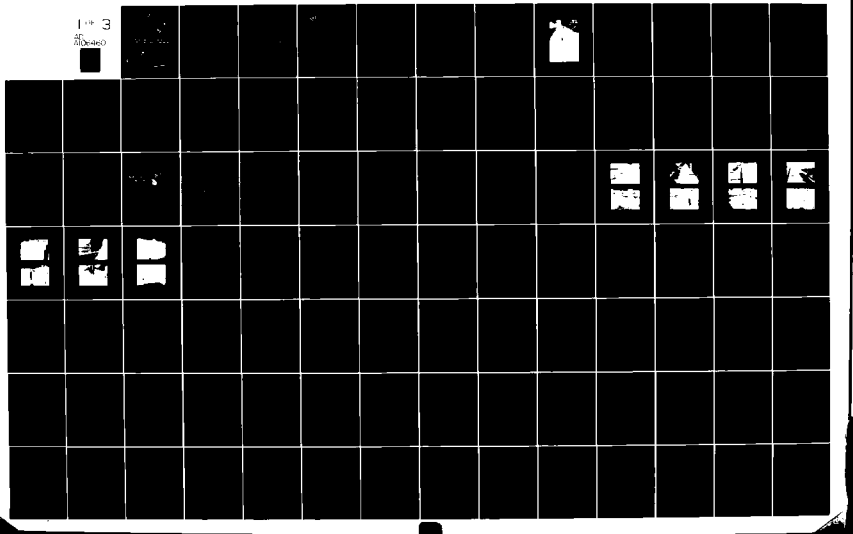

LEVEL II

MISSOURI-KANSAS CITY BASIN

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MOON VALLEY DAM
BOONE COUNTY, MISSOURI
MO 11597

PHASE 1 INSPECTION REPORT NATIONAL DAM SAFETY PROGRAM

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Dam Safety, Lake, Dam Inspection, Private Dams

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report was prepared under the National Program of Inspection of Non-Federal Dams. This report assesses the general condition of the dam with respect to safety, based on available data and on visual inspection, to determine if the dam poses hazards to human life or property.

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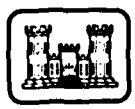
MISSOURI-KANSAS CITY BASIN

MOON VALLEY DAM

BOONE COUNTY, MISSOURI

MO 11597

PHASE 1 INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM



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PREPARED BY: U.S. ARMY ENGINEER DISTRICT. ST. LOUIS

FOR: STATE OF MISSOURI

MARCH 1981

DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
210 TUCKER BOULEVARD, NORTH
ST. LOUIS, MISSOURI 63101

REPLY TO ATTENTION OF

LMSED-PD

SUBJECT: Moon Valley Dam, Mo. ID No. 11597
Phase I Inspection Report

This report presents the results of field inspection and evaluation of the Moon Valley Dam.

It was prepared under the National Program of Inspection of Non-Federal Dams.

This dam has been classified as unsafe, emergency by the St. Louis District as a result of the application of the following criteria:

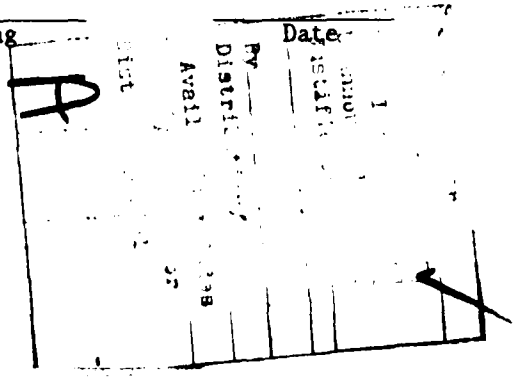
a. Spillway will not pass a 10-year frequency flood without overtopping of the dam. The spillway is, therefore, considered to be unusually small and seriously inadequate.

b. Overtopping could result in dam failure.

c. Dam failure significantly increases the hazard to life and property downstream.

Submitted By: SIGNED
Chief, Engineering Division
4 AUG 1981
Date

Approved By: SIGNED
Colonel, CE, Commanding
7 AUG 1981
Date



MOON VALLEY DAM

BOONE COUNTY, MISSOURI

MISSOURI INVENTORY NO. 11597

PHASE I INSPECTION REPORT

NATIONAL DAM SAFETY PROGRAM

PREPARED BY:

BLACK & VEATCH
CONSULTING ENGINEERS
KANSAS CITY, MISSOURI

UNDER DIRECTION OF

ST. LOUIS DISTRICT CORPS OF ENGINEERS

FOR

GOVERNOR OF MISSOURI

MARCH 1981

PHASE I REPORT

NATIONAL DAM SAFETY PROGRAM

Name of Dam	Moon Valley Dam
State Located	Missouri
County Located	Boone County
Stream	Hominy Branch
Date of Inspection	11 March 1981

Moon Valley Dam was inspected by a team of engineers from Black & Veatch, Consulting Engineers for the St. Louis District, Corps of Engineers. The purpose of the inspection was to make an assessment of the general condition of the dam with respect to safety, based upon available data and visual inspection, in order to determine if the dam poses hazards to human life or property.

The guidelines used in the assessment were furnished by the Department of the Army, Office of the Chief of Engineers and developed with the help of several Federal and state agencies, professional engineering organizations, and private engineers. Based on these guidelines, this dam is classified as a small size dam with a high downstream hazard potential. According to the St. Louis District, Corps of Engineers, failure would threaten lives and property. The estimated damage zone extends approximately one mile downstream of the dam. Within the estimated damage zone are three dwellings and Business Route 63. Contents of the estimated downstream damage zone were verified by the inspection team.

Our inspection and evaluation indicates the overflow section of the dam does not meet the criteria set forth in the guidelines for a dam having the above size and hazard potential. The overflow section will not pass the probable maximum flood without overtopping the dam but will pass three percent of the probable maximum flood. The probable maximum flood is defined as the flood discharge which may be expected from the most severe combination of critical meteorologic and hydrologic conditions which are reasonably possible in the region. The overflow section will not pass the flood which has a ten percent chance of occurrence in any given year (10-year flood). The spillway design flood recommended by the guidelines for a small, high hazard dam is 50 to 100 percent of the probable maximum flood. Considering the downstream hazard, the height of the dam, and the volume of water stored, the recommended spillway design flood is the probable maximum flood.

Based on visual observations, this dam appears to be in satisfactory condition. Deficiencies visually observed by the inspection team

were small trees on the embankment section of the dam, the accumulation of silt in the reservoir, erosion of material behind the abutment wingwalls, erosion of the upstream face of the earth embankment, and minor cracking and spalling of the concrete buttress section of the dam. Seepage, stability, and stress analyses required by the guidelines were not available, which is considered a deficiency that should be remedied.

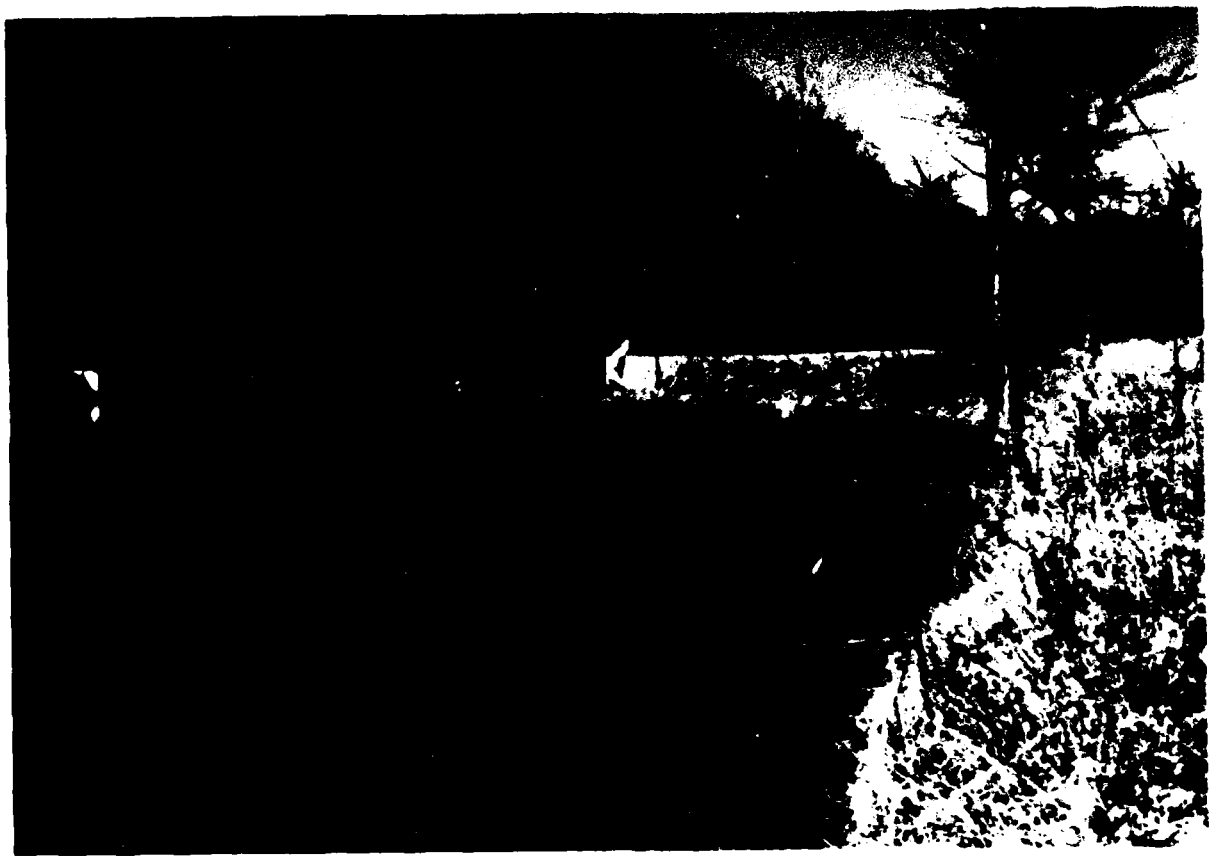
The spillway capacity for Moon Valley dam is seriously inadequate and should be remedied immediately. Future corrective action and regular maintenance will be required to correct or control the other described deficiencies. In addition, detailed seepage and stability analyses of the existing dam, as required by the guidelines, should be performed. A detailed report discussing each of these deficiencies is attached.

Edwin R. Burton

Edwin R. Burton, PE
Missouri E-10137

Harry L. Callahan

Harry L. Callahan, Partner
Black & Veatch



OVERVIEW OF DAM

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
MOON VALLEY DAM

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Appendix A - Hydrologic and Hydraulic Analyses

SECTION 1 - PROJECT INFORMATION

1.1 GENERAL

a. Authority. The National Dam Inspection Act, Public Law 92-367, authorized the Secretary of the Army, through the Corps of Engineers, to initiate a program of safety inspection of dams throughout the United States. Pursuant to the above, the District Engineer of the St. Louis District, Corps of Engineers, directed that a safety inspection of the Moon Valley Dam be made.

b. Purpose of Inspection. The purpose of the inspection was to make an assessment of the general condition of the dam with respect to safety, based upon available data and visual inspection, in order to determine if the dam poses hazards to human life or property.

c. Evaluation Criteria. Criteria used to evaluate the dam were furnished by the Department of the Army, Office of the Chief of Engineers, in "Recommended Guidelines for Safety Inspection of Dams." These guidelines were developed with the help of several Federal agencies and many state agencies, professional engineering organizations, and private engineers.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam and Appurtenances.

(1) The dam is a concrete buttress with an earth embankment extension at the right abutment. (Right and left as used herein give directional reference while looking downstream.) The concrete buttress section of the dam consists of a vertical concrete wall slab 10-inches thick at its crest. The slab is supported by 10-inch thick concrete, stepped, vertical pilasters at 9.4-feet center that are poured integrally with the wall slab. The concrete section of the dam is keyed into the natural abutment at each end by extending the wall slab beyond the abutment wing walls. The left abutment is a natural high bank that rises very steeply from the top dam to about 80 feet above the dam. The right abutment is a natural low bank that rises gradually from about the level of dam overflow section to a high point about 10 feet above the top of the dam. The embankment section of the dam is about 174-feet long and approximately 4-feet high. This section begins at the right abutment wingwall then curves to follow the stream bank upstream of and 90-degrees to the concrete section. The crest of the embankment is nonuniform in elevation and width with an average width of about 6-feet. The upstream slope of the embankment is very steep from the crest to the water line. The downstream slope varies from about 2 horizontal to 1 vertical near the abutment wingwall to about 4 to 6 horizontal to 1 vertical along the north-south leg, (see Plates 3, 4, 5, and 6).

The dam is located in the valley of Hominy Branch at a bend in the stream. Hominy Branch is a tributary to Hinkson Creek. The watershed is characterized by low hills with fairly rugged terrain. The watershed area is long and narrow consisting of about 40 percent grassland, 40 percent woodland, and 20 percent residential areas. Two dams, MO 10733 and MO 12102, are located across Hominy Branch upstream of Moon Valley Dam. Another dam, MO 11057, is located on a tributary to Hominy Branch upstream of Moon Valley Dam. Two major highways cross the valley of the watershed upstream of the dam, (see Plate 2).

(2) Normal discharge from the reservoir is governed by the geometry of the concrete buttress crest which is referred to in the remainder of the text as the overflow section. The overflow section is a rectangular section with a width of 100 feet. The crest varies in elevation by 0.4 foot, (see Plate 4). A 12-inch diameter cast iron pipe protrudes through the concrete slab section of the dam, (Photo 14). The outlet end is covered with a flange plate which has two 1-1/2 to 2-inch valves in the plate. Flow over the overflow section is to a 22 feet wide plunge pool/stilling basin, then to the natural stream channel of Hominy Creek downstream of the dam.

(3) Pertinent physical data are given in paragraph 1.3.

b. Location. The dam is located in the eastern part of the City of Columbia in central Boone County, Missouri, as indicated on Plate 1. The lake formed by the dam is shown on the United States Geological Survey 7.5 minute series quadrangle map for Columbia, Missouri in Sections 17 and 18 of T48N, R12W.

c. Size Classification. Criteria for determining the size classification of dams and impoundments are presented in the guidelines referenced in paragraph 1.1c above. Based on these criteria, Moon Valley Dam which is 14-feet high and has a normal storage capacity of 74 acre-feet, is in the small size category. A small size dam is classified as having a height less than 40 feet, but greater than or equal to 25 feet and/or a storage capacity less than 1,000 acre-feet, but greater than or equal to 50 acre-feet.

d. Hazard Classification. The hazard classification assigned by the Corps of Engineers for this dam is as follows: The Moon Valley Dam has a high hazard potential, meaning that the dam is located where failure may cause loss of life, and serious damage to homes, agricultural, industrial and commercial facilities, and to important public utilities, main highways, or railroads. For the Moon Valley Dam the estimated flood damage zone extends approximately one mile downstream of the dam. Within the estimated damage zone are three dwellings and Business Route 63. Contents of the estimated downstream damage zone were verified by the inspection team.

e. Ownership. The dam is owned by Mr. E.L. (Buck) Rogers, c/o Outdoors Incorporated, Outdoors Building, Columbia, Missouri 65201.

f. Purpose of Dam. The dam forms a 15.8 acre lake used for recreation.

g. Design and Construction History. Data relating to the design and construction were not available. According to the owner, the dam was designed by the City Engineer, Mr. Welch. The dam was constructed in 1964.

h. Normal Operating Procedure. Normal rainfall, runoff, transpiration, evaporation, and discharge over the overflow section all combine to maintain a relatively stable water surface elevation.

1.3 PERTINENT DATA

a. Drainage Area - 4,197 acres (including 2,551 acres above dam MO 12102).

b. Discharge at Damsite.

(1) Normal discharge at the damsite is over the overflow section of the concrete dam.

(2) Estimated experienced maximum flood at damsite - Unknown.

(3) Estimated ungated spillway capacity with pool at minimum top of dam (El. 651.8) 662 cfs

c. Elevation (Feet above m.s.l.). Approximate tie to USGS map.

(1) Top of dam - 651.8 (Embankment section 651.8) (see Plate 3)

(2) Overflow section crest - 650.0

(3) Bottom of stilling basin - 636.0 ±

(4) Stilling basin overflow crest - 639.0 ±

(5) Maximum tailwater - Unknown.

(6) Maximum pool, design surcharge - Not available.

d. Reservoir.

(1) Length of maximum pool - 4,400 feet ± (Probable maximum flood pool level)

(2) Length of normal pool - 2,600 feet ± (Overflow section crest)

e. Storage (Acre-feet).

(1) Top of dam - 104 (Embankment Section)

(2) Overflow section crest - 74

(3) Design surcharge - Not available.

f. Reservoir Surface (Acres).

(1) Top of dam - 18.6 (Embankment Section)

(2) Overflow section crest - 15.8

(3) Max pool

g. Dam.

(1) Type - Concrete buttress with earth embankment

(2) Length - 287 feet

(3) Height - Concrete section - 14 feet ±; Earth embankment -4 feet ±

(4) Top width - Overflow section - 10 inches; earth embankment - approximately 10 feet.

(5) Side slopes - Earth embankment - upstream face approximately 1.0 V on 1.0 H, downstream face varies from approximately 1.0 V on 2.0 H to approximately 1.0 V on 6.0 H.

(6) Zoning - Unknown.

(7) Impervious core - Unknown.

(8) Cutoff - Unknown.

(9) Grout curtain - Unknown.

h. Diversion and Regulating Tunnel - None.

i. Overflow Section. (Spillway)

(1) Type - Concrete buttress.

(2) Length of weir - 100 feet.

(3) Crest elevation - 650.0 feet m.s.l. minimum elevation (see Plates 3 & 5)

(4) Gates - None.

(5) Upstream channel - None

(6) Downstream channel - Discharges to a plunge pool/stilling basin and then to the natural stream below the dam.

j. Emergency Spillway - None.

k. Regulating Outlets - 12-inch cast iron pipe with bolted flange plate cover

SECTION 2 - ENGINEERING DATA

2.1 DESIGN

Design data were not available.

2.2 CONSTRUCTION

Construction records were unavailable.

2.3 OPERATION

Operational records and documentation of past floods were unavailable.

2.4 GEOLOGY

The site of the dam and reserovir is located across a broad, steep-sided valley. The dam impounds the drainage from Hominy Branch.

The soil in the dam and reservoir area consists of Union silt loam and silty clay loam. The Union series consists of moderately well-drained soils formed in loess over cherty residuum weathered from limestone. The upper eight inches of this series is classified for engineering purposes as clayey silt to silty clay. (Unified Classification CL-ML to CL). The remaining part of the soil profile is classified as silty clay (CL) with clayey sand (SC), clayey gravel (GC) and highly plastic clay (CH) present below a depth of forty inches. Bedrock of the area consists of Mississippian age cherty, crinoidal limestone of the Osagean Series. Depth to bedrock in the upland area is assumed to be greater than five feet based on Soil Conservation Service information.

2.5 EVALUATION

a. Availability. No engineering data were available.

b. Adequacy. No engineering data were available. Thus, an assessment of the design, construction, and operation could not be made. Seepage, stability, and stress analyses comparable to the requirements of the "Recommended Guidelines for Safety Inspection of Dams" were not available, which is considered a deficiency. These seepage, stability, and stress analyses should be performed for appropriate loading conditions (including earthquake loads) and made a matter of record.

c. Validity. The validity of the design, construction, and operation could not be determined due to the lack of engineering data.

SECTION 3 - VISUAL INSPECTION

3.1 FINDINGS

a. General. A visual inspection of Moon Valley Dam was made on 11 March 1981. The inspection team consisted of Edwin Burton, team leader and structural engineer; Shannon Casey, geologist; Gary Van Riessen, geotechnical engineer; and John Ruhl, hydrologic/hydraulic engineer. The dam appears to be in satisfactory condition. Specific observations are discussed below. No observations were made of the condition of the upstream face of the dam below the pool elevation at the time of the inspection.

b. Dam. The inspection team observed the following conditions at the dam. The upstream slope of the embankment section was steep. The downstream slope was moderately steep at the end of the concrete overflow section and gradually flattened. The embankment section appeared to be founded on the natural stream overbank which is at or near the elevation of the overflow crest of the concrete buttress dam. The maximum height of the embankment material above the overbank material is approximately four feet. Four trees approximately six inches in diameter were growing on the upstream face of the embankment section. Erosion of embankment material was evident on the upstream face and adjacent to the wingwalls of the concrete buttress section of the dam. No animal burrows were observed in the embankment section. No cracking, sliding, sloughing, sinholes or other signs of settlement or instability were observed on the embankment section. The embankment section was covered with short grasses and broad-leafed plants which have been mowed periodically.

The concrete face slab and the first pilaster at the right end of the overflow section were misaligned, (Photos 3, 4 & 5). There was also a displacement of about 1 inch at a horizontal construction joint about 6-feet down from the top of the first slab section at the right end. There was no cracking, leaking, or visible sign of stress in this end section of the overflow section. Minor chipping and spalling have occurred on the wingwall and pilaster corners. Fine (less than 3/64 inch wide) to medium (3/64 inch to 5/64 inch wide) diagonal cracks were located on the downstream face of each wingwall. A medium (3/64 inch to 5/64 inch wide) vertical crack was observed in the dam face slab from the crest to the top of the cast iron pipe through the center section (Photo 14). Due to intermittent flow over the center section caused by small waves, determinations of leakage through the vertical crack could not be made. Pattern cracking was observed on the downstream face of the dam face slab with minor seepage (Photo 13). A spalled area at the left wingwall has exposed the steel reinforcing bars.

The erosion behind the wingwalls may have been caused by local runoff or by overtopping of the structure, (Photos 9 & 10). Concrete debris has been dumped downstream of the stilling basin, (Photo 4), which aids in deterring erosion. No other evidence was found to indicate that the embankment had ever been overtopped. The hydraulic analysis of this structure indicates that the potential for overtopping of the embankment section is extremely great under hydrologic conditions in excess of three percent of the probable maximum flood.

Minor seeps through the concrete section of the dam were observed as wetness at cracks in the concrete, (Photo 13). No other seepage was observed.

c. Appurtenant Structures. The crest of the concrete buttress section of the dam serves as an overflow section and is the primary means of discharge from this structure. A 12-inch cast iron pipe passes through the face slab at approximately 9 feet down from the crest and near the center of the overflow section. The pipe is capped by a bolted flange plate. Two valves about 1-1/2 inch in size, are located in the flange plate, (Photo 14). The inspection team made no attempt to open the valves but they appeared to be inoperable.

d. Geology. The soils surrounding the dam and reservoir consist of clayey silt to silty clay (CL-ML to CL) to a depth of eight inches, overlying silty clay (CL) with clayey sand (SC), clayey gravel (GC) and highly plastic clay (CH) present below a depth of forty inches.

Limestone blocks in the downstream valley indicate bedrock is near the surface at the abutments and foundation of the dam. Surface material of the right abutment consists of silty clay, and the left abutment is the same material but with a much steeper slope covered with stones and chert fragments.

e. Reservoir Area. No slumping or slides of the reservoir banks were observed. The upstream channel to the lake contains some minor debris and a few trees. Water in the lake was cloudy on the day of the inspection. Measurements along the upstream side of the face slab indicated a water depth of about 2.5 feet at the dam. It is believed by the inspection team that this was due to siltation.

f. Downstream Channel. The overflow section of the dam discharges to a plunge pool/stilling basin and then to the natural channel of Hominy Branch below the dam. A sanitary sewer located parallel to the downstream channel and a sanitary sewer crossing which is approximately 1/4 mile downstream could suffer damage during periods of high flow.

3.2 EVALUATION

The various deficiencies observed at the time of the inspection are not believed to represent an immediate safety hazard. They do, however, warrant monitoring and control.

The potential for sloughing, erosion, or sliding of embankment material is enhanced by the presence of the relatively steep upstream slope.

The growth of trees, if allowed to go unchecked, could cause deterioration of the embankment. The roots of trees can loosen the embankment material and also can leave voids through which water can pass.

The erosion gullies at the embankment/wingwall interfaces are believed to be the result of local runoff or may possibly be due to overtopping of the dam.

The absence of adequate slope protection on the upstream slope of the dam has resulted in wave action erosion. If not corrected wave action will continue to erode the embankment and could lead to slope stability problems.

The minor cracking and spalling of the concrete buttress section should be monitored. The accumulation of silt within the reservoir could increase the loadings on the dam thereby aggravating cracking problems.

The slab and pilaster misalignment and horizontal joint displacement at the right end of the overflow section are believed to be the results of concrete form slippage during construction, thus are not considered deficiencies.

SECTION 4 - OPERATIONAL PROCEDURES

4.1 PROCEDURES

The pool is primarily controlled by rainfall, runoff, evaporation, transpiration, and capacity of the overflow section of the dam.

4.2 MAINTENANCE OF DAM

There was evidence that a maintenance program was in effect which includes the mowing of the grass and weeds on the crest. Concrete debris has been dumped in the eroded areas behind the wingwalls. According to the SCS (Soil Conservation Service), the reservoir has probably been dredged to reduce the silt load. The date and extent of the dredging is unknown.

4.3 MAINTENANCE OF OPERATING FACILITIES

A 12-inch cast iron pipe projects from the downstream face of the concrete section of the dam. The pipe is capped with a bolted flange plate. Two valves about 1-1/2 inch in size are mounted through the flange plate. The pipe is located at an elevation about 9-feet below the crest of the overflow section which is also below the top of silt at the upstream face of the dam. The intended purpose and the operability of the pipe and valves was not determined by the inspection team.

4.4 DESCRIPTION OF ANY WARNING SYSTEM IN EFFECT

There is no existing warning system or planned scheme for alerting downstream residents for this dam.

4.5 EVALUATION

A maintenance program should continue to include mowing the grass cover on the embankment in order to discourage animal burrowing and removal of trees on the embankment. Additional measures to control erosion behind the wingwalls should be undertaken and should include repair of eroded embankment material.

SECTION 5 - HYDRAULIC/HYDROLOGIC

5.1 EVALUATION OF FEATURES

a. Design Data. No design data were available.

b. Experience Data. The drainage area and lake surface area are developed from USGS Columbia, Hallsville, and Millersburg Quadrangle Maps. The dam layout is from a survey made during the inspection. Watershed soil data was determined from the SCS Soil Survey of Boone County, Missouri.

c. Visual Observations.

(1) Discharge from the reservoir is through the overflow section of the concrete buttress portion of the dam. The lake elevation at the time of inspection (El. 650.0) was at the crest of the overflow section. The downstream channel has only minor obstructions and trees which are not considered to impede discharges through the overflow section.

(2) Flow through the overflow section of the dam is not believed to endanger the integrity of the dam.

d. Overtopping Potential. The overflow section will not pass the probable maximum flood without overtopping the dam. The probable maximum flood is defined as the flood discharge that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the region. The overflow section will pass three percent of the probable maximum flood without overtopping the dam. The spillway will not pass the ten percent chance flood estimated to have a peak outflow of 2,360 cfs developed for a 24-hour, ten percent chance rainfall. According to the recommended guidelines from the Department of the Army, Office of the Chief of Engineers, a high hazard dam of small size should pass 50 to 100 percent of the probable maximum flood. Considering the downstream hazard, the height of the dam, and the volume of water stored, the recommended spillway design flood is the standard project flood. The portion of the estimated peak discharge of 50 percent of the probable maximum flood overtopping the earth embankment would be 4,020 cfs of the total discharge from the reservoir of 9,230 cfs. The estimated duration of overtopping is 14.1 hours with a maximum height of 4.9 feet. The portion of the estimated peak discharge of the probable maximum flood overtopping the earth embankment would be 11,790 cfs of the total discharge from the reservoir of 20,570 cfs. The estimated duration of overtopping is 16.3 hours with a maximum height of 7.7 feet. The embankment section of the dam would be jeopardized should overtopping occur for these periods of time. No evaluation on the potential for failure due to overtopping of the concrete buttress section can be made without structural and foundation data relative to the stability of the dam.

According to the St. Louis District, Corps of Engineers, the effect from rupture of the dam could extend approximately one mile downstream of the dam. Three dwellings and Business Route 63 could be severely damaged and lives could be lost should failure of the dam occur. Contents of the estimated downstream damage zone were verified by the inspection team. The City of Columbia, Missouri is participating in the Flood Insurance Program which imposes controls on future flood plain development along Hominy Branch and Hinkson Creek downstream of Moon Valley Dam.

SECTION 6 - STRUCTURAL STABILITY

6.1 EVALUATION OF STRUCTURAL STABILITY

a. Visual Observations. Visual observations of conditions which affect the structural stability of this dam are discussed in Section 3, paragraph 3.1b. No signs of instability of the dam were observed; however, the steepness of slope and erosion of the upstream face of the embankment enhance the potential of slope instability. The accumulation of silt against the upstream face of the concrete buttress section increases structural loading on the dam.

b. Design and Construction Data. No design data relating to the structural stability of the dam were found. Seepage, stability, and stress analyses comparable to the requirements of the "Recommended Guidelines for Safety Inspection of Dams" were not available, which is considered a deficiency.

c. Operating Records. No operational records were available.

d. Postconstruction Changes. No evidence of postconstruction changes was observed.

e. Seismic Stability. The dam is located in Seismic Zone 1 which is a zone of minor seismic risk. A properly designed and constructed earth and concrete dam using sound engineering principles and conservatism should pose no serious stability problems during earthquakes in this zone. Adequate descriptions of embankment and concrete buttress design parameters, foundation and abutment conditions, or static stability analyses to assess the seismic stability of this structure were not available and therefore no inferences will be made regarding the seismic stability. An assessment of the seismic stability should be included as part of the stability analysis required by the guidelines.

SECTION 7 - ASSESSMENT/REMEDIAL MEASURES

7.1 DAM ASSESSMENT

a. Safety. Hydrologic and hydraulic analysis of Moon Valley Dam reveal that its spillway is seriously inadequate. Several conditions observed during the visual inspection by the inspection team should be repaired and/or monitored and controlled. These are erosion on the upstream slope of the embankment section and at both abutment wingwalls of the concrete buttress section; siltation of the reservoir; minor cracking and spalling of concrete; and the growth of trees on the embankment. Seepage, stability, and stress analyses comparable to the requirements of the "Recommended Guidelines for Safety Inspection of Dams" were not available, which is considered a deficiency.

b. Adequacy of Information. Due to the absence of engineering design data, the conclusions in this report were based only on performance history and visual conditions. The inspection team considers that these data are sufficient to support the conclusions herein. Seepage, stability, and stress analyses comparable to the requirements of the "Recommended Guidelines for Safety Inspection of Dams" were not available, which is considered a deficiency.

c. Urgency. It is the opinion of the inspection team that a program should be developed as soon as possible to implement remedial measures recommended in paragraph 7.2c. If the safety deficiencies listed in paragraph 7.1a are not corrected, they will continue to deteriorate and lead to a serious potential of failure. The item recommended in paragraph 7.2a and 7.2b should be pursued on a high priority basis.

d. Necessity for Phase II. The Phase I investigation does not identify any items which would require a Phase II investigation. However, additional studies may be necessary.

e. Seismic Stability. This dam is located in Seismic Zone 1. Adequate description of embankment and concrete buttress design parameters, foundation and abutment conditions, or static stability analyses to assess the seismic stability of this structure were not available and therefore no inferences will be made regarding the seismic stability. An assessment of the seismic stability should be included as part of the recommended stability analysis.

7.2 REMEDIAL MEASURES

a. Alternatives. One or more of the following mitigation measures should be undertaken to avoid severe consequences of hydraulic adequacy of the dam.

(1) Additional studies should be undertaken to determine the consequences of overtopping the dam. Studies should include hydraulic analysis to accurately define the downstream damage zone for failure of the earth embankment and for failure of the concrete buttress section. Structural, stability, and stress analysis should be performed to determine the capability of the concrete buttress section of the dam to withstand pressures developed during overtopping floods. The analysis should determine the effects of failure of the earth embankment on the stability of the concrete buttress section.

(2) Enhance the stability of the dam and fortify the embankment to resist erosion to permit overtopping.

(3) Provide a highly reliable flood warning system (generally does not prevent damage but avoids loss of life).

(4) Remove the dam.

b. Recommendations.

(1) The erosion gullies at the wingwall should be backfilled with suitable material and compacted. Slope protection may be required to control erosion in these areas.

(2) The accumulation of silt in the reservoir increases the stresses on the concrete buttress section of the dam. The depth of sediment accumulating against the upstream face of the dam should be monitored and evaluated to determine its significance to the overall stability of the concrete section.

c. Operation and Maintenance Procedures. The following operation and maintenance procedures are recommended and should be carried out under the direction of a professional engineer experienced in the design, construction, and maintenance of earth and concrete dams.

(1) Erosion protection should be placed on the upstream face of the embankment section of the dam at the normal lake level to prevent erosion of the embankment material.

(2) The cracking and spalling noted during the visual inspection of the concrete buttress section should be closely monitored (see section 3.1.b). Any significant changes should be evaluated.

(3) An improved maintenance program to remove and control the growth of trees on the embankment section should be developed. Grass/weed cover on the embankment should continue to be cut periodically.

(4) Seepage and stability analyses should be performed.

(5) A detailed inspection of the dam should be made periodically. This inspection should include measurement of cracking and spalling of the concrete buttress section. More frequent inspections may be required if additional deficiencies are observed or the severity of the reported deficiencies increase. Results of the recommended inspection should be documented and made a matter of record.

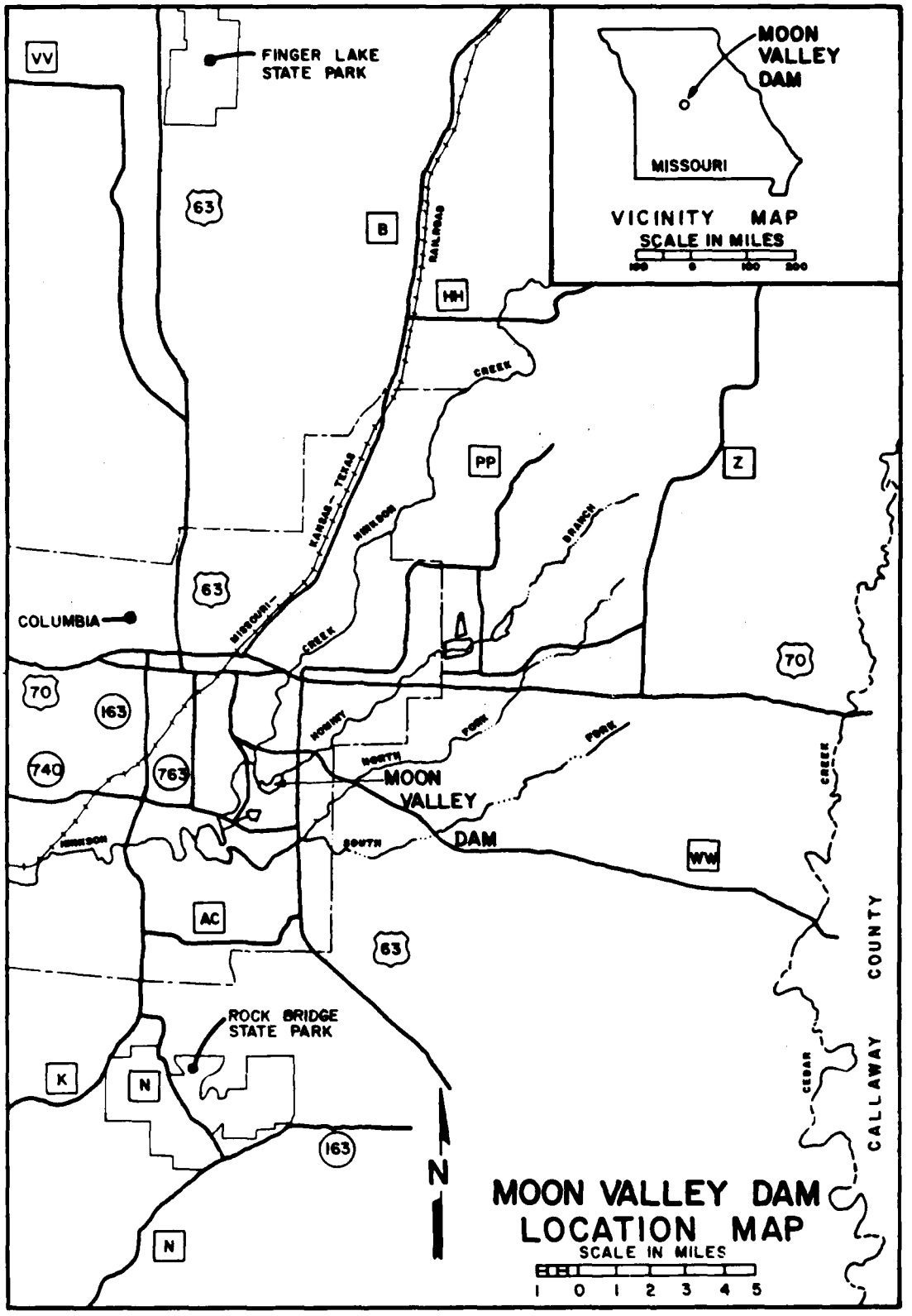
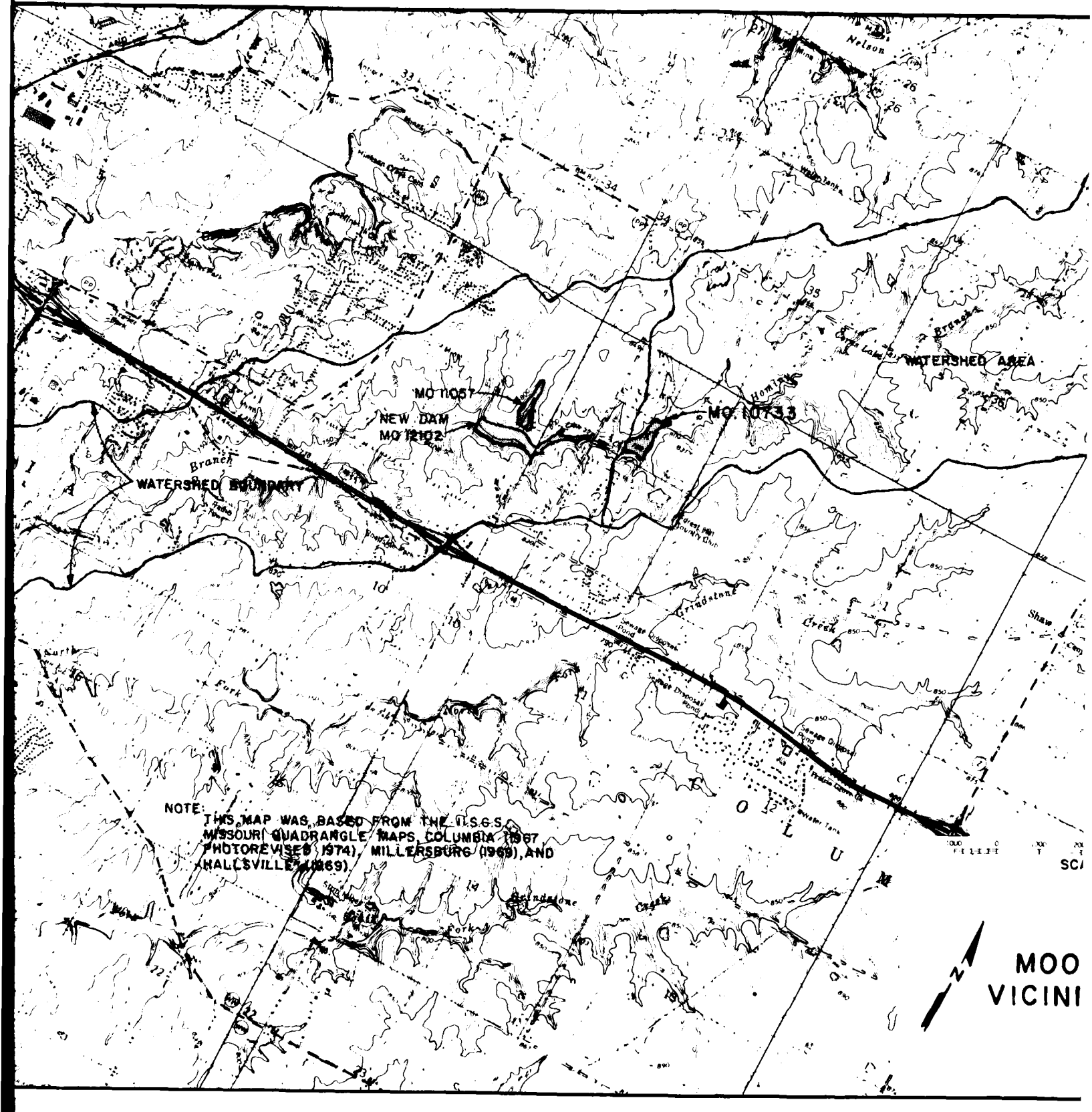
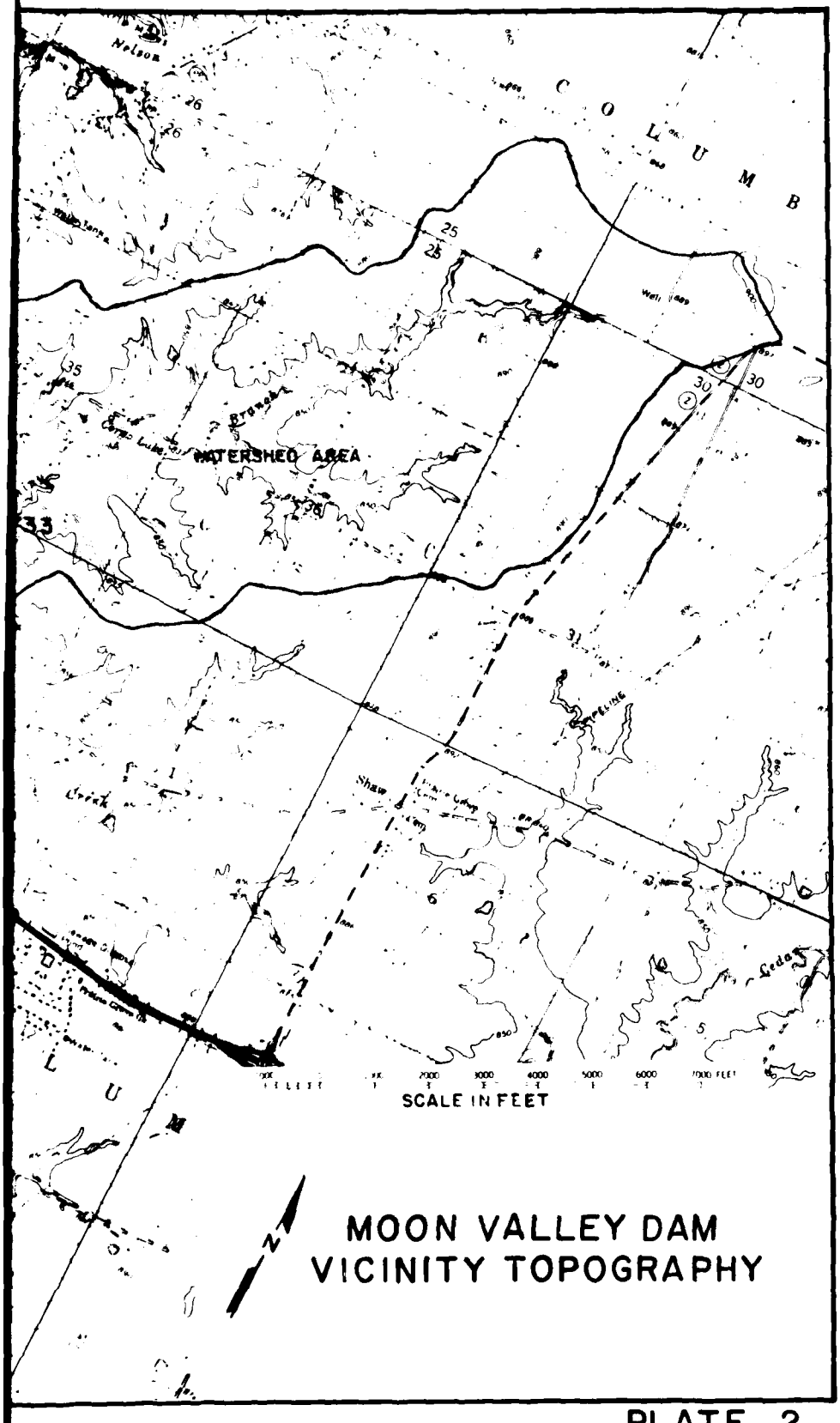

VV
FINGER LAKE STATE PARK
63
B
HH
RAILROAD
CREEK
PP
Z
KANSAS - TEXAS
MISSOURI
BRANCH
63
COLUMBIA
MISSOURI
CREEK
70
70
163
740
763
NORTH
FORK
FORK
MOON VALLEY DAM
SOUTH
WW
AC
63
ROCK BRIDGE STATE PARK
K
N
163
N
CALLAWAY COUNTY
CEDAR
CREEK
MOON VALLEY DAM
VICINITY MAP
SCALE IN MILES
MISSOURI
N
MOON VALLEY DAM
LOCATION MAP
SCALE IN MILES
1 0 1 2 3 4 5

PLATE 1

COLUMBIA
Hinkson
Hominy
WATERS
MOON
VALLEY
LAKE
Grindstone
Creek
North
South
NO


MO 11057
NEW DAM
MO 12102
MO 10733
WATERSHED AREA
WATERSHED BOUNDARY
NOTE:
THIS MAP WAS BASED FROM THE U.S.G.S.
MISSOURI QUADRANGLE MAPS, COLUMBIA (1967
PHOTOREVISED 1974), MILLERSBURG (1969), AND
HALLSVILLE (1969).
MOO
VICINI



MOON VALLEY DAM
VICINITY TOPOGRAPHY

PLATE 2

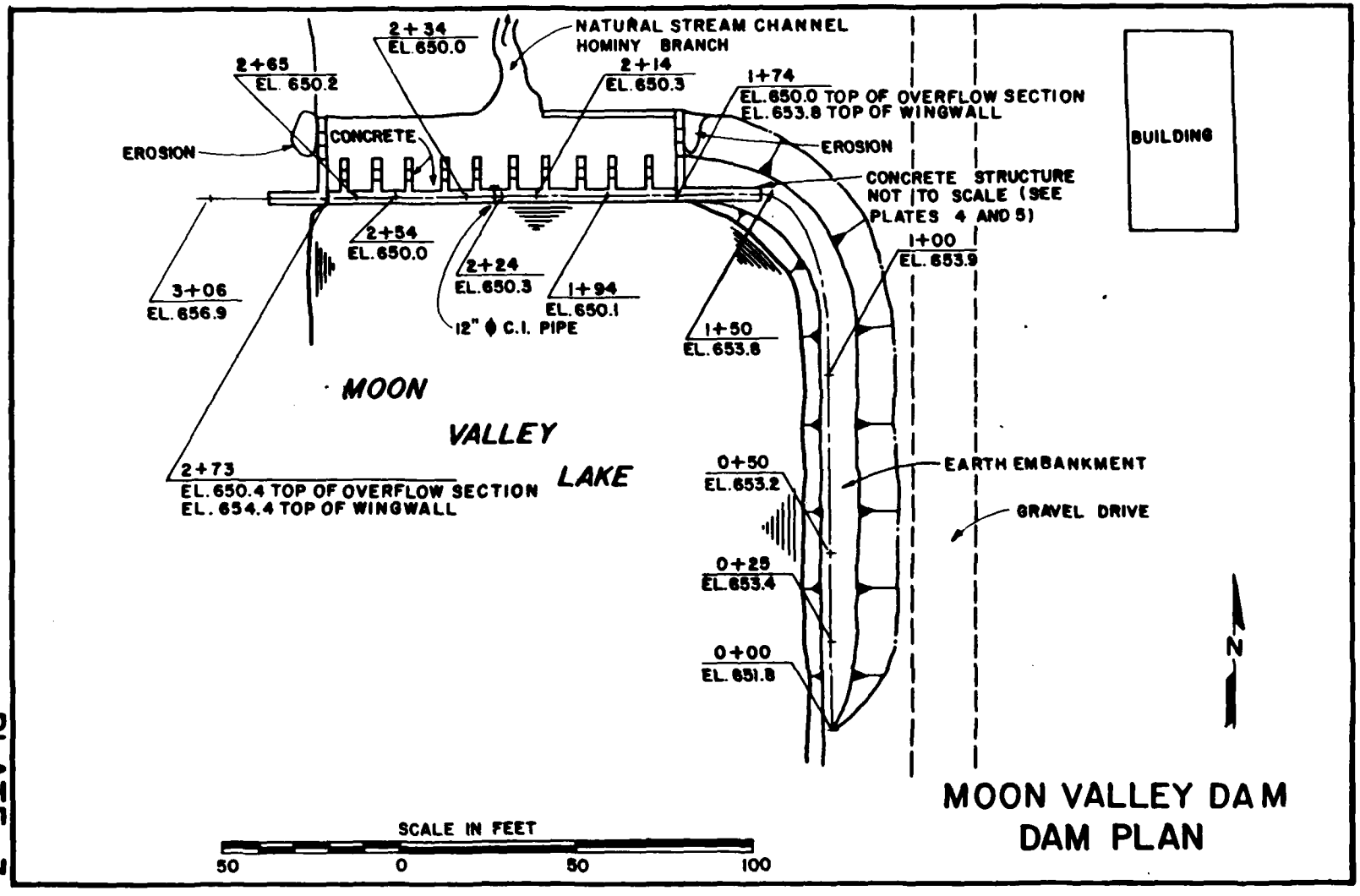

2+34
EL.650.0
NATURAL STREAM CHANNEL
HOMINY BRANCH
2+65
EL. 650.2
2+14
EL.650.3
1+74
EL.650.0 TOP OF OVERFLOW SECTION
EL.653.8 TOP OF WINGWALL
BUILDING
EROSION
CONCRETE
EROSION
CONCRETE STRUCTURE
NOT TO SCALE (SEE
PLATES 4 AND 5)
2+54
EL.650.0
1+00
EL. 653.9
3+06
EL. 656.9
2+24
EL.650.3
1+94
EL.650.1
12" ϕ C.I. PIPE
1+50
EL.653.6
MOON
VALLEY
LAKE
2+73
EL. 650.4 TOP OF OVERFLOW SECTION
EL. 654.4 TOP OF WINGWALL
0+50
EL.653.2
EARTH EMBANKMENT
GRAVEL DRIVE
0+25
EL.653.4
0+00
EL. 651.8
N
SCALE IN FEET
50
0
50
100
MOON VALLEY DAM
DAM PLAN

PLATE 3

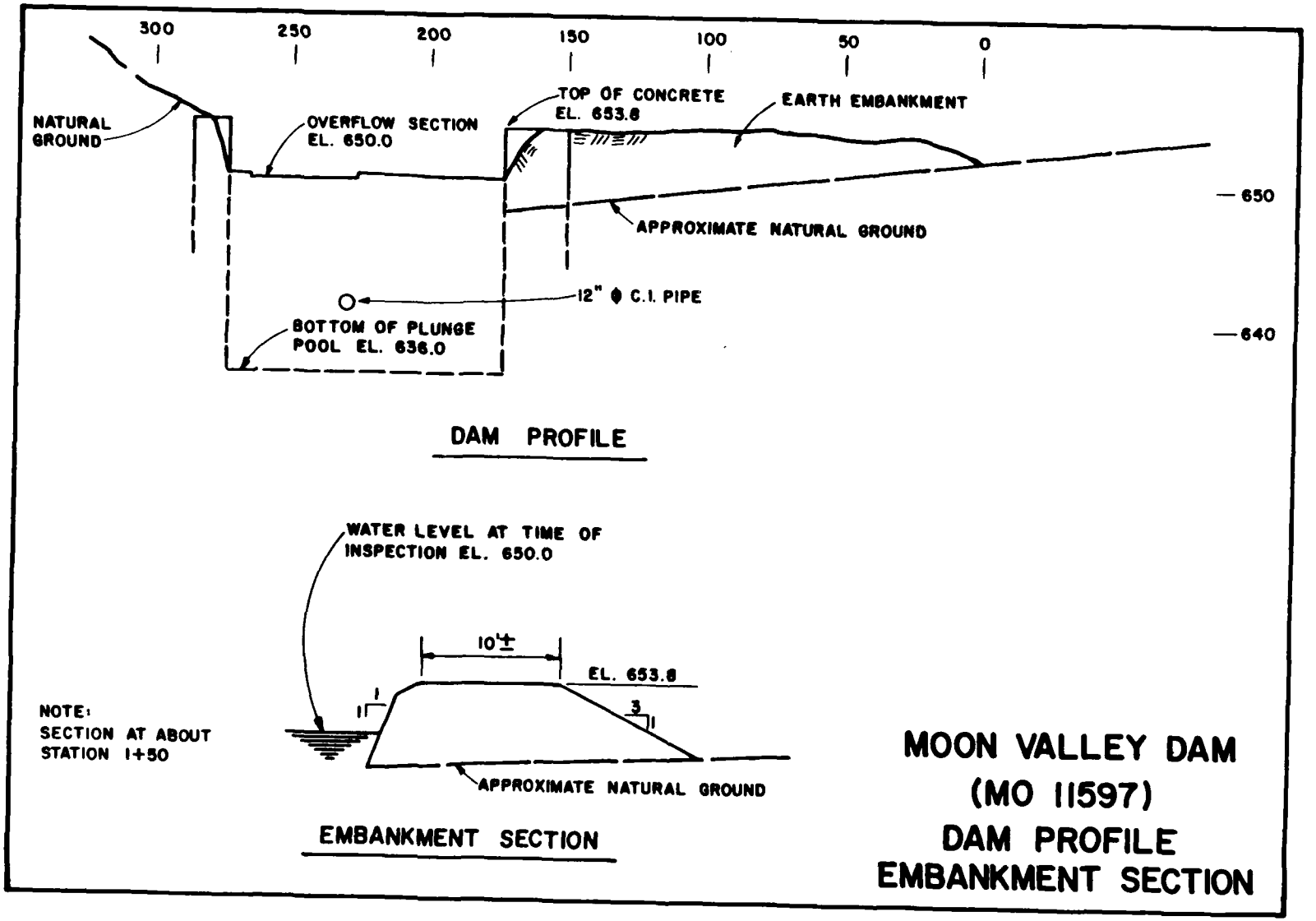


PLATE 4

MOON VALLEY DAM
(MO 11597)
DAM PROFILE
EMBANKMENT SECTION

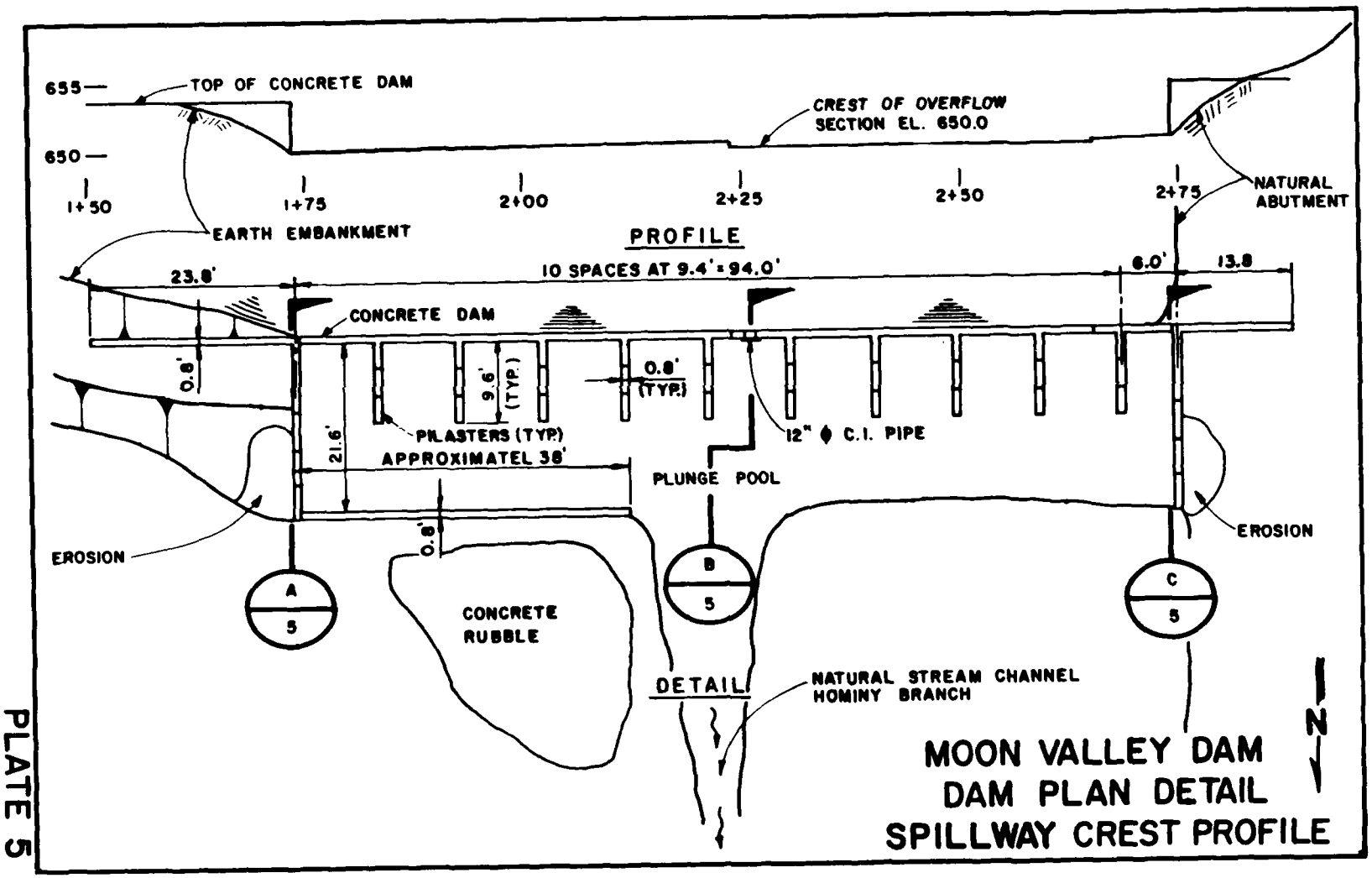
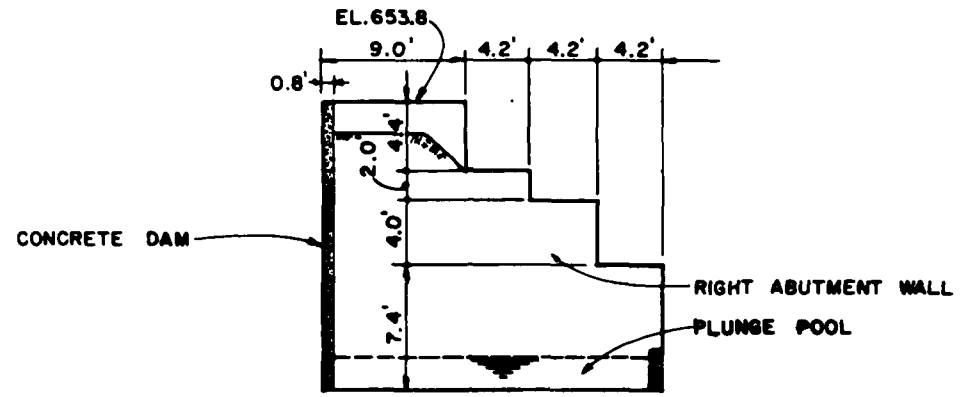
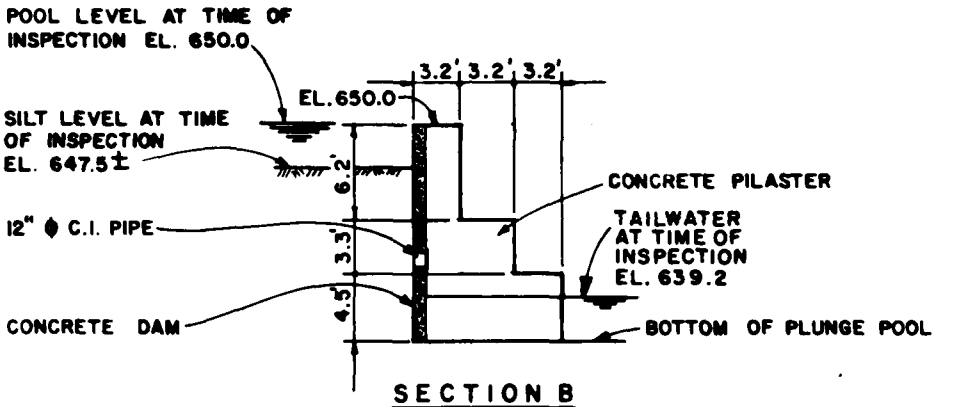

655
650
TOP OF CONCRETE DAM
CREST OF OVERFLOW SECTION EL. 650.0
1+50
1+75
2+00
2+25
2+50
2+75
NATURAL ABUTMENT
EARTH EMBANKMENT
PROFILE
23.8'
10 SPACES AT 9.4'=94.0'
6.0'
13.8'
CONCRETE DAM
0.8'
9.6' (TYP.)
0.8' (TYP.)
PILASTERS (TYP) APPROXIMATEL 38'
21.6'
12" ϕ C.I. PIPE
PLUNGE POOL
EROSION
EROSION
0.8'
A
5
CONCRETE RUBBLE
B
5
C
5
DETAIL
NATURAL STREAM CHANNEL HOMINY BRANCH
N
MOON VALLEY DAM
DAM PLAN DETAIL
SPILLWAY CREST PROFILE

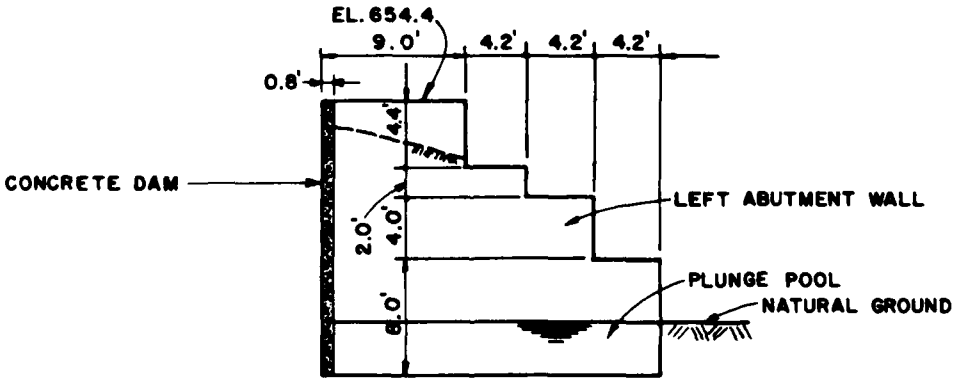
PLATE 5



SECTION A



SECTION B



SECTION C

MOON VALLEY DAM
CONCRETE SECTIONS

PLATE 6

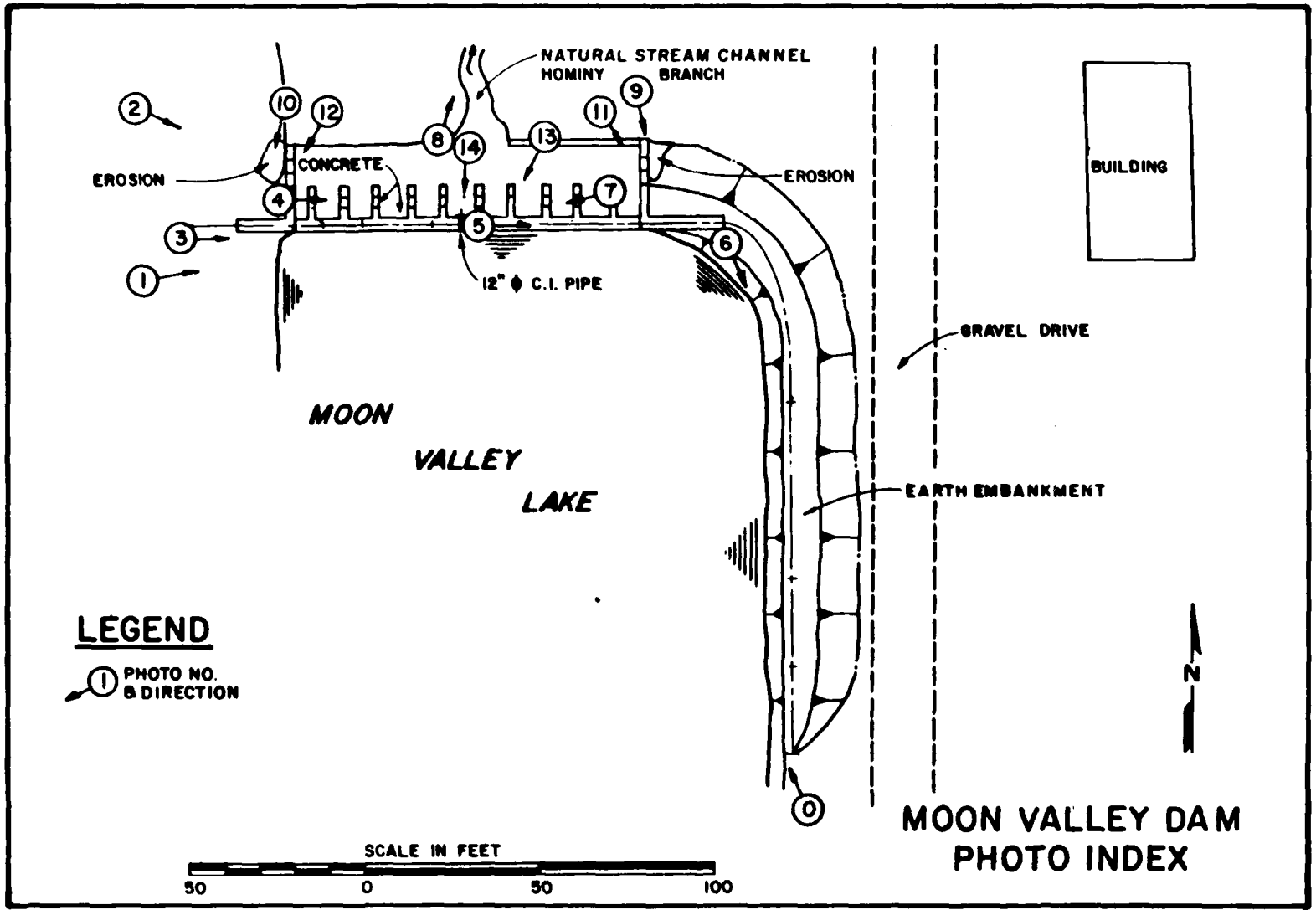

NATURAL STREAM CHANNEL
HOMINY BRANCH
EROSION
CONCRETE
EROSION
BUILDING
12" ϕ C.I. PIPE
GRAVEL DRIVE
MOON
VALLEY
LAKE
EARTH EMBANKMENT
LEGEND
PHOTO NO. & DIRECTION
N
SCALE IN FEET
50 0 50 100
MOON VALLEY DAM
PHOTO INDEX

PLATE 7

PHOTO 1: TOP OF DAM LOOKING DOWNSTREAM

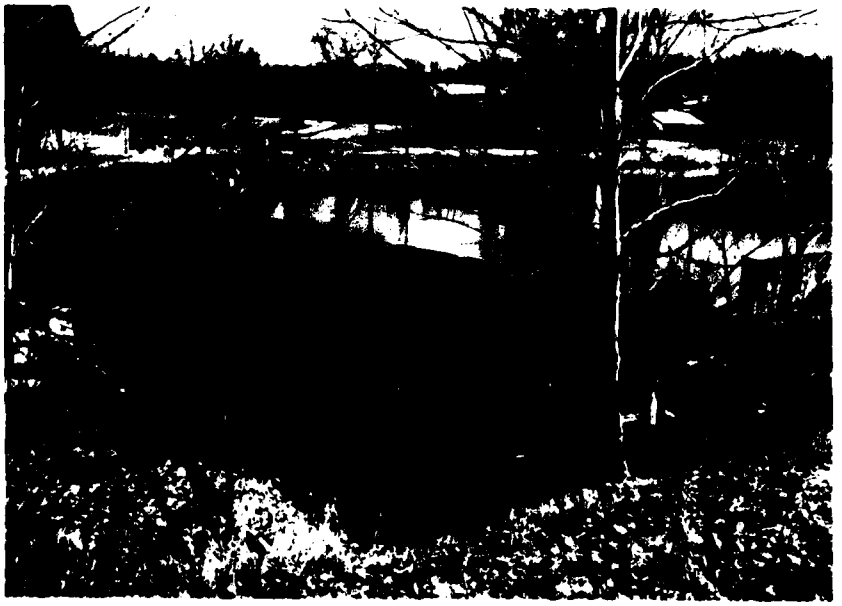


PHOTO 2: DOWNSTREAM FACE OF DAM

PHOTO 3: BUTTRESS ALIGNMENT

PHOTO 4: ALIGNMENT OF DAM LOOKING EAST

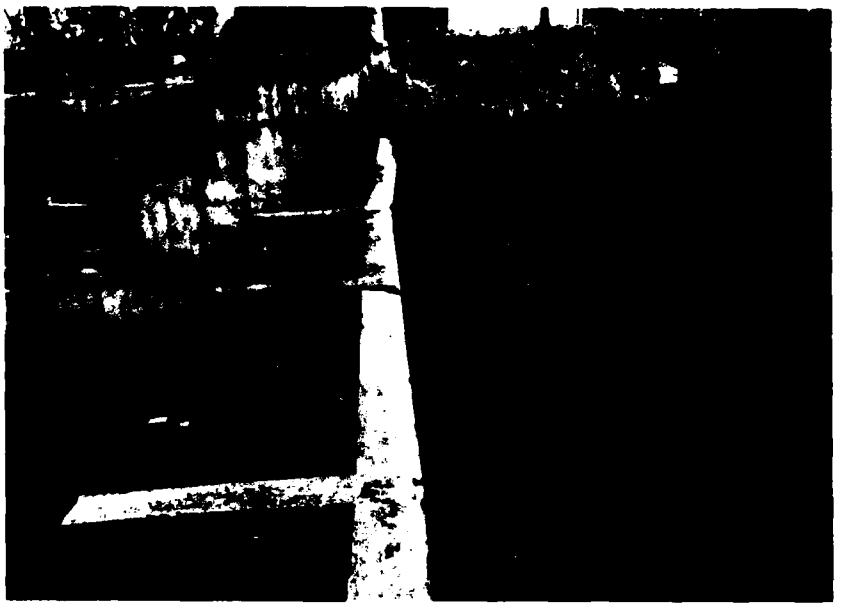


PHOTO 5: ALIGNMENT OF EAST END OF DAM

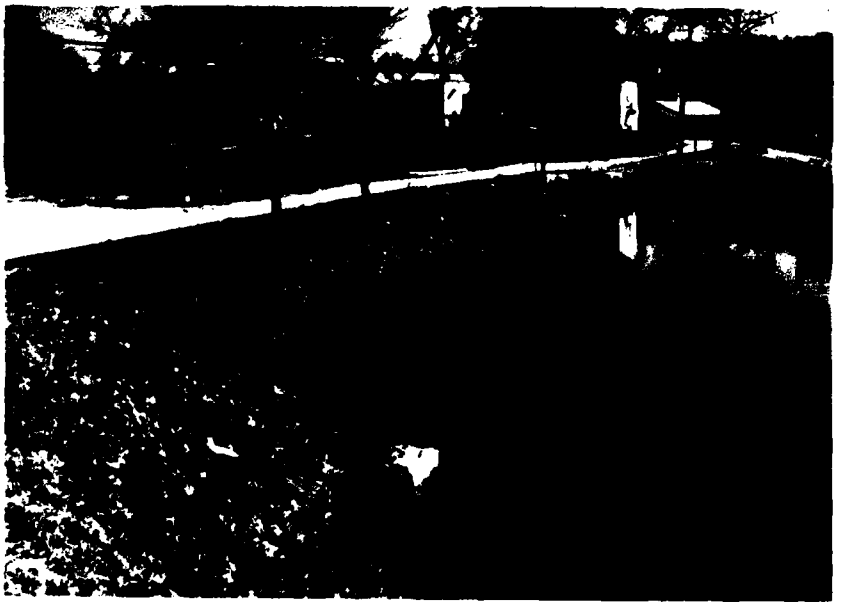


PHOTO 6: UPSTREAM FACE OF EMBANKMENT AND RIGHT ABUTMENT

PHOTO 7: PLUNGE POOL BELOW DAM

PHOTO 8: NATURAL CHANNEL DOWNSTREAM OF DAM

PHOTO 9: EROSION BEHIND EAST WINGWALL

PHOTO 10: EROSION AND DEBRIS BEHIND WEST WINGWALL

PHOTO 11: DIAGONAL CRACK IN EAST WINGWALL

PHOTO 12: WEST WINGWALL

PHOTO 13: SEEPAGE FROM PATTERN CRACKING

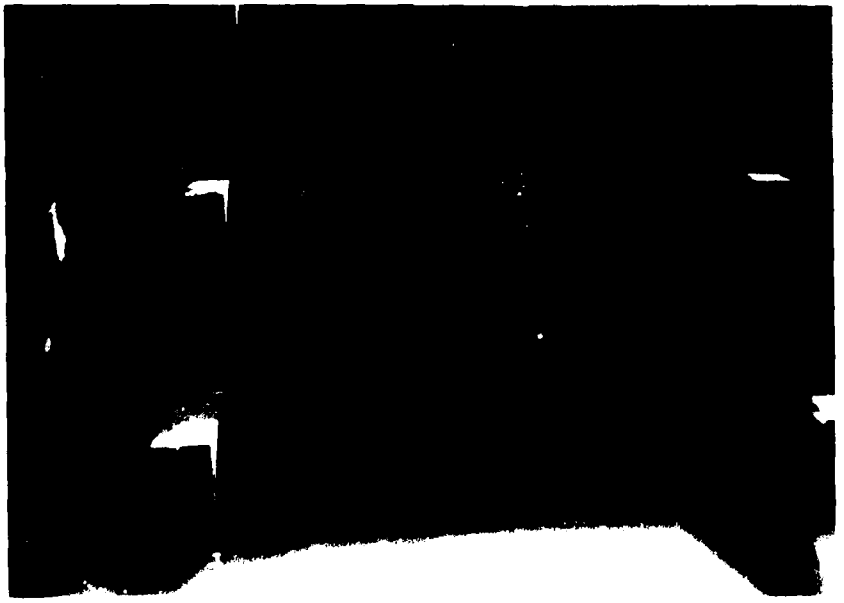


PHOTO 14: OUTLET PIPE

APPENDIX A

HYDROLOGIC AND HYDRAULIC ANALYSES

HYDROLOGIC AND HYDRAULIC ANALYSES

To determine the overtopping potential, flood routings were performed by applying the Probable Maximum Precipitation (PMP) to a synthetic unit hydrograph to develop the inflow hydrographs for Moon Valley Dam and the upstream dams. The inflow hydrographs were then routed through the reservoirs and the spillways or overflow section. The overtopping analysis was determined using the computer program HEC-1 (Dam Safety Version) (1).

The PMP was determined from regional charts prepared by the National Weather Service in "Hydrometeorological Report No. 33" (HMR-33) (2). Reduction factors were not applied. The rainfall distribution for the 24-hour PMP storm was determined according to the procedures outlined in HMR-33 and EM 1110-2-1411 (3). The Jefferson City, Missouri rainfall distribution (5 min. interval - 24 hours duration), as provided by the St. Louis District, Corp of Engineers, was used when the ten percent chance probability flood was routed through the reservoirs and the spillways or overflow section.

The synthetic unit hydrograph for the watershed was developed by the computer program using the Soil Conservation Service (SCS) method (1, 4). The parameters for the unit hydrograph are shown in Table 1. The time of concentration (T_c) was determined using the Linsley, Kohler, and Paulhus method (5) or the Kirpich method (6) and was verified by the Snyder and SCS methods.

The SCS curve number (CN) method was used in computing the infiltration losses for the rainfall-runoff relationship. The CN values used, and the result from the computer output, are shown in Table 2.

The reservoir routings were performed using the modified Puls method. The initial reservoir pool elevations for the routing of each storm were determined to be equivalent to the crest elevations of the principal spillway or overflow section in accordance with antecedent storm conditions AMC II and AMC III preceding the ten percent probability and probable maximum storms outlined by the U.S. Army Corps of Engineers, St. Louis District (7). The hydraulic capacity of the spillways and overflow section and the storage capacity of the reservoirs were defined by the elevation, surface area, storage, and discharge relationships shown in Table 3.

The rating curve for the spillways and overflow section are shown in Table 3. The flow over the crests of the dams was determined using the non-level dam crest option ($L and $V cards) of the HEC-1 program. The program assumes critical flow over a broad-crested weir.

Breach analyses were performed using HEC-1 for the reservoirs upstream of Moon Valley Dam. The breaching parameters are shown in Table 4.

The result of the routing analysis indicates that three percent of the Probable Maximum Flood (PMF) will not overtop Moon Valley Dam. The routing analysis also indicated that the ten percent probability flood will overtop the dam.

A summary of the routing analysis for different ratios of the PMF is shown in Table 5.

The computer input data and a summary of the output data are presented at the back of this appendix.

TABLE 1

SYNTHETIC UNIT HYDROGRAPH

Parameters:	Welch Lake Dam	U/S Hagan Lake Dam	Hagan Lake Dam	Waters Edge Estates Lake Dam	I-70 Hwy. Embankment	U.S. 63 Hwy. Embankment	Moon Valley Dam
Drainage Area (A) (acres)[1]	2.154	124	33	240	520	935	191
Hydraulic Length of Watercourse (L) (miles)	3.90	0.62	0.13	-	1.38	2.46	0.98
Length of Watercourse to Centroid of Drainage Area (Lc) (miles)	1.70	-	-	-	0.58	1.21	0.36
Average Watershed Land Slope (s) (feet/feet)	0.0056	-	-	-	0.0174	0.0141	0.0345
Elevation Difference in Watershed (H) (feet)	-	60	46	-	-	-	-
Lag Time (Lg) (hours)	1.92	0.19	0.03	0.17	0.70	1.19	0.45
Time of Concentration (Tc) (hours)	3.20[2]	0.31[3]	0.06[3]	0.28[3]	1.16[2]	1.99[2]	0.75[2]
Duration (D) (minutes)	25	3.7	0.7	3.4	9	16	6

(Use 5 minutes in each case)

NOTES:

1 Incremental drainage areas. Total drainage area for Moon Valley Dam is 4,197 acres.

2 Calculated using the Linsley, Kohler, and Paulhus method.

3 Calculated using the Kirpich method.

TABLE 1

SYNTHETIC UNIT HYDROGRAPH

Unit Hydrograph Ordinates Discharge (cfs)*

Time (Min.)*	Welch Lake Dam	U/S Hagan Lake Dam	Hagan Lake Dam	Waters Edge Estates Lake Dam	I-70 Hwy. Embankment
0	0	0	0	0	0
5	11	110	293	260	21
10	21	349	82	787	66
15	41	404	16	809	127
20	65	292	3	507	211
25	92	152	0	254	318
30	124	85		136	420
35	156	47		72	492
40	197	26		38	529
45	240	14		20	532
50	290	8		11	518
55	346	4		6	479
60	405	3		2	434
65	472	1		0	377
70	539	0			308
75	597				246
80	653				204
85	700				169
90	739				142
95	775				120
100	796				100
105	817				82
110	824				69
115	828				57
120	828				48
125	824				39
130	819				33
135	798				27
140	777				22
.	.				.
.	.				.
220	289				0
.					
.					
585	0				

TABLE 1

SYNTHETIC UNIT HYDROGRAPH
(Continued)

Unit Hydrograph Ordinates Discharge (cfs)*

Time (Min.)*	U.S. 63 Hwy. Embankment	Moon Valley Dam
0	0	0
5	12	23
10	31	71
15	59	146
20	93	234
25	135	284
30	182	295
35	244	276
40	313	239
45	385	189
50	446	135
55	496	102
60	535	78
65	559	60
70	569	45
75	571	34
80	567	26
85	550	20
90	525	15
95	498	11
100	468	8
105	435	6
110	397	5
115	352	4
120	308	3
125	269	2
130	241	2
135	215	1
140	192	1
145	172	0
.		
.		
365	0	

* From HEC-1 computer output

FORMULAS USED:

$$L_g = 0.35\ (L\ L_c/S^{0.5})^{0.38} \quad (5)$$

$$T_c = (11.9 \times L^3/H)^{0.385} \quad (6)$$

$$T_c = L_g/0.6$$

$$D = 0.133\ T_c$$

TABLE 2

RAINFALL-RUNOFF VALUES

Selected Flood Event	Storm Duration (Hours)	Rainfall (Inches)	Runoff (Inches)	Loss (Inches)
PMF				
Welch Lake Dam	24	32.24	30.66	1.58
U/S Hagan Lake Dam	24	32.24	31.35	0.89
Hagan Lake Dam	24	32.24	31.35	0.89
Waters Edge Estates Lake Dam	24	32.24	31.35	0.89
I-70 Hwy. Embankment	24	32.24	30.37	1.87
U.S. 63 Hwy. Embankment	24	32.24	30.37	1.87
Moon Valley Dam	24	32.24	30.37	1.87
50% PMF				
Welch Lake Dam	24	16.86	15.33	1.53
U/S Hagan Lake Dam	24	16.54	15.67	0.87
Hagan Lake Dam	24	16.54	15.67	0.87
Waters Edge Estates Lake Dam	24	16.54	15.67	0.87
I-70 Hwy. Embankment	24	16.99	15.18	1.81
U.S. 63 Hwy. Embankment	24	16.99	15.18	1.81
Moon Valley Dam	24	16.99	15.18	1.81
10% Probability				
Welch Lake Dam	24	5.21	2.54	2.67
U/S Hagan Lake Dam	24	5.27	3.52	1.75
Hagan Lake Dam	24	5.27	3.52	1.75
Waters Edge Estates Lake Dam	24	5.27	3.52	1.75
I-70 Hwy. Embankment	24	5.27	2.32	2.95
U.S. 63 Hwy. Embankment	24	5.27	2.32	2.95
Moon Valley Dam	24	5.27	2.32	2.95

Additional Data:

1) The major soil associations in this watershed are Freeburg, Gosport, Hatton, Lindley, Mandeville, Mexico, and Sharon (8).
70 percent of total drainage area in hydrologic soil group C.
25 percent of total drainage area in hydrologic soil group B.
5 percent of total drainage area in hydrologic soil group D.
40 percent of the total land use was grassland.
40 percent of the total land use was woods.
20 percent of the total land use was residential.

2)

Location	SCS Runoff Curve Number (CN)	
	AMC II[1]	AMC III[2]
Welch Lake Dam	74	88
U/S Hagan Lake Dam	84	93
Hagan Lake Dam	84	93
Waters Edge Estates Lake Dam	84	93
I-70 Hwy. Embankment	71	86
U.S. 63 Hwy. Embankment	71	86
Moon Valley Dam	71	86

[1] Used for 10% Probability Storm.
[2] Used for PMP.

TABLE 3

ELEVATION, SURFACE AREA, STORAGE, AND DISCHARGE RELATIONSHIPS

Elevation (feet-MSL)	Lake Surface Area (acres)	Lake Storage (acre-ft.)	Spillway or Overflow Section Discharge (cfs)
Welch Lake Dam			
*786.6	7.7	49	0
**787.4	10.2	56	11
***790.4	19.6	99	452
U/S Hagan Lake Dam			
*799.5	5.5	29	0
**804.4	8.5	62	27
***805.0	8.5	67	77

TABLE 3

ELEVATION, SURFACE AREA, STORAGE, AND DISCHARGE RELATIONSHIPS
(Continued)

Elevation (feet-MSL)	Lake Surface Area (acres)	Lake Storage (acre-ft.)	Spillway or Overflow Section Discharge (cfs)
Hagan Lake Dam			
*784.4	6.5	66	0
***785.0	7.0	70	61
Waters Edge Estates Lake Dam			
*762.5	17.0	122	0
766.0	22.1	189	436
***770.0	28.0	289	1,419
I-70 Hwy. Embankment			
*723.0	0	0	0
730.0	7.5	27	850
***738.0	26.3	180	3,505
U.S. 63 Hwy. Embankment			
*657.0	0	0	0
670.0	8.7	56	2,093
***687.0	46.8	522	9,914
Moon Valley Dam			
*650.0	15.8	74	0
***651.8	18.6	104	662
653.8	21.6	143	2,150

*Principal spillway or overflow section crest elevation
**Emergency spillway crest elevation
***Top of dam elevation

The surface area relationships in Table 3 were developed from the Columbia and Millersburg, Missouri 7.5 minute quadrangle maps and the field measurements.

METHOD USED:

Overflow section releases for Moon Valley Dam were computed by HEC-1 from overflow section geometry data input on $L and $V cards. Discharge through the overflow section for the probable maximum flood and other percentages of the probable maximum flood was determined by the equations for flow over a non-level crest.

$$d_c = 2/3\ (H_m + 1/4\ \Delta Y)$$
$$A = 1/2\ T\ (2d_c - \Delta Y)$$
$$Q = (A^3 g/T)^{0.5}$$

where:

d_c = critical depth (feet)
H_m = available specific energy which is taken to be the height of the water surface in the reservoir above the bottom of the section (feet)
ΔY = change in elevation across the section (feet)
A = flow area (sq. ft.)
T = top width (feet)
Q = flow (cfs)
g = 32.2 ft/sec^2 = acceleration due to gravity.

TABLE 4

BREACHING PARAMETERS

	Welch Lake Dam	U/S Hagan Lake Dam	Hagan Lake Dam	Waters Edge Estates Lake Dam
Bottom Width of Breach (BRWID)	10.0 feet	10.0 feet	10.0 feet	10.0 feet
Side Slope of Breach(z) (In feet horizontal to 1.0 foot vertical)	0.5	0.5	0.5	0.5
Elevation of Breach Bottom at Maximum Size of Breach (ELBM)	772.0	794.7	770.0	746.0
Time for Breach to Develop to Maximum Size (TFAIL)	1.0 hour	1.0 hour	1.0 hour	1.0 hour
Elevation of Water Surface Which Will Cause Dam to Fail (FAILEL)	790.4	805.0	785.0	770.0

TABLE 5

RESULTS OF FLOOD ROUTINGS

Ratio of PMF	Peak Inflow (CFS)	Peak Lake Elevation (ft.-MSL)	Total Storage (AC.-ft)	Peak Outflow (CFS)	Depth (ft.) Over Top of Dam	Duration of Over-topping (hrs.)
-	0	*650.0	74	0	-	-
0.03	343	651.2	93	330	0	0
0.50	9,235	656.7	210	9,230	4.9	14.1
1.00	20,594	659.5	288	20,570	7.7	16.3

* Overflow section crest elevation

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(2) U.S. Department of the Army, Corps of Engineers, Seasonal Variation of the Probable Maximum Precipitation East of the 105th Meridian for Areas from 10 to 1000 Square Miles and Durations of 6, 12, 24, and 48 Hours, Hydrometerological Report No. 33, Reprinted October 1967, Washington, D.C.

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(4) U.S. Department of Agriculture, Soil Conservation Service, National Engineering Handbook, Section 4, Hydrology, August 1972.

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**********
FLOOD HYDROGRAPH PACKAGE (HEC-1)
DAM SAFETY VERSION      JULY 1978
  LAST MODIFICATION  01 APR 80
**********
    1  A1MISSOURI DAM INSPECTION PROGRAM   H219457*MDI.MOONVALLEY
    2  A2ST. LOUIS DISTRICT US ARMY CORPS OF ENGINEERS
    3  A3MOON VALLEY DAM & OTHER UPSTREAM RESERVOIRS
    4  B     300       0       5       0       0       0       0       0       0       0
    5  B1      5
    6  J       1       7       1
    7  J1   .01     .02     .03     .04     .05      .5      1.
    8  K       0  AREA 1                                   3       1
    9  K1INFLOW TO WELCH LAKE
   10  M       1       2 3.37                          1.0
   11  P             24.80     101     120     130
   12  T                                                       -1     -88
   13  W2          1.92
   14  X                   1
   15  K       1   DAM 1                                       1
   16  K1   ROUTING THROUGH WELCH LAKE DAM
   17  Y                                       1       1
   18  Y1      1                                                -786.6     -1
   19  Y4 786.6   787.0   787.4   787.5   788.0   788.5   789.0   789.5   790.0   790.5
   20  Y4 791.0   792.0   793.0   794.0   795.0   796.0
   21  Y5    0.      6.     11.     18.     45.     75.    110.    147.    194.    244.
   22  Y5  279.    371.    464.    538.    581.    627.
   23  $A    0.     7.7    18.2    52.5
   24  $E  767.6   786.6   790.    800.
   25  $$ 786.6
   26  $D 790.4
   27  $L    0.     30.     45.     71.    141.    320.    372.    494.    549.    632.
   28  $V 789.3   789.4   789.6   789.8   790.5   790.8   791.0   791.5   792.3   795.2
   29  $B   10.      .5    772.      1.   786.6   790.4
   30  K       0  AREA 2                                   3       1
   31  K1   RUNOFF CALCULATIONS FOR U/S HAGAN LAKE
   32  M       1       2 .193                          1.0
   33  P             24.80     100     120     130
   34  T                                                       -1     -93
   35  W2          .186
   36  X                   1
   37  K       1   DAM 2                                       1
   38  K1   ROUTE HYDROGRAPH THROUGH U/S HAGAN LAKE DAM
   39  Y                                       1       1
   40  Y1      1                                                -799.5     -1
   41  Y4 799.5   800.6   800.9  804.69  804.97   805.1  805.24  805.53  805.81 806.38
   42  Y4807.23  808.13  809.03
   43  Y5    0.      2.5    12.4    27.8      70      99     189     465     806 1678.
   44  Y53317.    5458.   7929.
   45  $A    0.       1       3     5.5     8.5      12
   46  $E   785     790     795     800     805     810
   47  $$ 799.5
   48  $D   805
   49  $B   10.      .5   794.7       1  799.5   805.0
   50  K       0  AREA 3                                   3       1
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```
K1  RUNOFF CALCULATIONS FOR HAGAN LAKE (MO 11057)
M       1       2 .051                          1.0
P               24.80     100     120     130
T                                                       -1      -93
W2              .034
X                       1
K       2       3                                       1
K1 COMBINE HYDROGRAPHS-TOTAL INFLOW TO HAGAN LAKE (MO 11057)
K       1   DAM 3                                       1
K1    ROUTE HYDROGRAPH THROUGH HAGAN LAKE DAM (MO 11057)
Y                                       1       1
Y1      1                                               -784.4      -1
Y4 784.4  784.68  784.95  785.22  785.47  785.73    786.  786.28  786.56 786.84
Y4787.14  787.44  787.74  788.04  788.34  788.64
Y5    0.      12      47     121     232     395     645    1005    1480 2075.
Y5  2802    3606    4483    5427    6435    7503
$A    0.       1       3     6.5     9.5    15.5
$E   755     765     775   784.4     790     800
$$ 784.4
$D   785
$B   10.      .5    770.       1   784.4   785.0
K       0  AREA 4                                       3       1
K1 RUNOFF CALCULATIONS FOR WATERS EDGE ESTATE LAKE (MO 12102)
M       1       2 .375                          1.0
P               24.80     100     120     130
T                                                       -1      -93
W2              0.17
X                       1
K       3       4                                       1
K1COMBINE HYDROGRAPHS-TOTAL INFLOW TO MO.12102
K       1   DAM 4                                       1
K1ROUTE THROUGH WATERS EDGE ESTATE LAKE DAM (MO 12102)
Y                                       1       1
Y1      1                                               -762.5      -1
Y4762.5  763.33  764.59  765.82  769.40  770.14   770.6  771.45  772.12 773.75
Y4775.36
Y5    0.      50     200     400    1200    1470    2150    4020    5980 12000.
Y5 19520
$A    0.       3      14      17      28      50
$E   745     750     760   762.5     770     780
$$ 762.5
$D   770
$B   10.      .5    746.       1   762.5    770.
K       1  CHAN 5                                       1
K1    CHANNEL ROUTING TO I-70 EMBANKMENT
Y                                       1       1
Y1      1                                               0.0047
Y6 0.070   0.050   0.070    740.    770.   4500.
Y7    0.    770.     60.    760.    120.    750.    280.    740.    320.  740.
Y7  460.    750.    520.    760.    580.    770.
```

```
K       0  AREA 5                                   3       1
K1 INFLOW TO I-70 EMBANKMENT
M       1       2 0.813                     1.0
P           24.80     101     120     130
T                                                       -1     -86
W2          0.694
X                       1
K       2       5                                       1
K1 COMBINE HYDROGRAPHS-TOTAL INFLOW TO I-70 (OUTFLOW FROM MO.12102 & AREA 5)
K       1   DAM 5                                       1
K1   ROUTING THROUGH I-70 EMBANKMENT
Y                               1       1
Y1      1                                           -723.0      -1
Y4  723.    724.    725.    730.    735.    738.    750.
Y5    0.     32.    101.    841.   2270.   3504.   3505.
$S   0.0    26.3    219.    673.
$E  723.    730.    740.    750.
$$  723.
$D  738.
$L    0.     30.    310.   1390.
$V 737.9    738.    740.    750.
K       1  CHAN 6                                       1
K1   CHANNEL ROUTING TO HIGHWAY 63 EMBANKMENT
Y                               1       1
Y1      1
Y6 0.070   0.050   0.070    700.    730.  10400.  0.0063
Y7    0.    730.     40.    720.    100.    710.    280.    700.    360.    700.
Y7  560.    710.    760.    720.    920.    730.
K       0  AREA 6                                   3       1
K1  INFLOW TO HIGHWAY 63 EMBANKMENT
M       1       2 1.461                     1.0
P           24.80     101     120     130
T                                                       -1     -86
W2          1.192
X                       1
K       2       6                                       1
K1COMBINE HYDROGRAPHS-TOTAL INFLOW TO HWY 63(OUTFLOW FROM HWY 63 & AREA 6)
K       1   DAM 6                                       1
K1   ROUTING THROUGH HIGHWAY 63 EMBANKMENT
Y                               1       1
Y1      1                                           -657.0      -1
Y4  657.    658.    660.    665.    670.    675.    680.    685.    687.  700.
Y5    0.     33.    190.    915.   2083.   3728.   5898.   8643.   9913.  9914.
$S    0.     2.6    54.6    234.    646.   1377.
$E  657.    660.    670.    680.    690.    700.
$$  657.
$D  687.
$L    0.     39.    340.   1180.
$V 686.9    687.    690.    770.
K       0  AREA 7                                   3       1
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```
K1 INFLOW TO MOON VALLEY LAKE
M      1       2   0.299                       1.0
P            24.8     101     120     130
T                                                     -1     -86
W2          0.447
X                       1
K      2       7                                       1
K1   COMBINE HYDROGRAPHS-TOTAL INFLOW TO MOON VALLEY LAKE
K      1   DAM 7                                       1
K1   ROUTING THROUGH MOON VALLEY DAM
Y                                 1       1
Y1     1                                          -650.0
$A    0.    15.8    31.1
$E  636.    650.    660.
$$  650.
$D 651.8
$L    0.     61.     85.     99.     99.    151.    226.    318.    362.465.
$V 650.0   650.1   650.3   650.4   651.8   653.2   653.8   654.4   656.0660.0
K     99
```

PREVIEW OF SEQUENCE OF STREAM NETWORK CALCULATIONS

RUNOFF HYDROGRAPH AT AREA 1
ROUTE HYDROGRAPH TO DAM 1
RUNOFF HYDROGRAPH AT AREA 2
ROUTE HYDROGRAPH TO DAM 2
RUNOFF HYDROGRAPH AT AREA 3
COMBINE 2 HYDROGRAPHS AT 3
ROUTE HYDROGRAPH TO DAM 3
RUNOFF HYDROGRAPH AT AREA 4
COMBINE 2 HYDROGRAPHS AT 4
ROUTE HYDROGRAPH TO DAM 4
ROUTE HYDROGRAPH TO CHAN 5
RUNOFF HYDROGRAPH AT AREA 5
COMBINE 2 HYDROGRAPHS AT 5
ROUTE HYDROGRAPH TO DAM 5
ROUTE HYDROGRAPH TO CHAN 6
RUNOFF HYDROGRAPH AT AREA 6
COMBINE 2 HYDROGRAPHS AT 6
ROUTE HYDROGRAPH TO DAM 6
RUNOFF HYDROGRAPH AT AREA 7
COMBINE 2 HYDROGRAPHS AT 7
ROUTE HYDROGRAPH TO DAM 7
END OF NETWORK

****
FLOOD HYDROGRAPH PACKAGE (HEC-1)
DAM SAFETY VERSION JULY 1978
LAST MODIFICATION 01 APR 80
****

MISSOURI DAM INSPECTION PROGRAM H219457=MDI.MOONVALLEY
ST. LOUIS DISTRICT US ARMY CORPS OF ENGINEERS
MOON VALLEY DAM & OTHER UPSTREAM RESERVOIRS

JOB SPECIFICATION

NQ	NHR	NMIN	IDAY	IHR	IMIN	METRC	IPLT	IPRT	NSTAN
300	0	5	0	0	0	0	0	0	0

JOPER	NWT	LROPT	TRACE
5	0	0	0

MULTI-PLAN ANALYSES TO BE PERFORMED
NPLAN= 1 NRTIO= 7 LRTIO= 1

RTIOS= .01 .02 .03 .04 .05 .50 1.00

********** ********** ********** ********** **********

SUB-AREA RUNOFF COMPUTATION

INFLOW TO WELCH LAKE

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
AREA 1		0	0	0	0	3	1	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	2	3.37	.00	3.37	1.00	.000	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
.00	24.80	101.00	120.00	130.00	.00	.00	.00

LOSS DATA

LROPT	STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0	.00	.00	1.00	.00	.00	1.00	-1.00	-88.00	.00	.00

CURVE NO = -88.00 WETNESS = -1.00 EFFECT CN = 88.00

UNIT HYDROGRAPH DATA
TC= .00 LAG= 1.92

RECESSION DATA
STRTQ= .00 QRCSN= .00 RTIOR= 1.00

UNIT HYDROGRAPH 117 END OF PERIOD ORDINATES, TC= .00 HOURS, LAG= 1.92 VOL= 1.00

11.	21.	41.	65.	92.	124.	156.	197.	240.	290.
346.	405.	472.	539.	597.	653.	700.	739.	775.	796.
817.	824.	828.	828.	824.	819.	798.	777.	753.	728.
702.	674.	645.	610.	575.	535.	493.	453.	417.	382.

357.	333.	310.	289.	269.	251.	234.	220.	208.	195.
182.	169.	159.	148.	138.	127.	118.	111.	104.	97.
90.	85.	79.	74.	69.	64.	60.	56.	52.	48.
45.	42.	39.	37.	34.	32.	30.	28.	26.	24.
23.	21.	20.	18.	17.	16.	15.	14.	13.	12.
11.	11.	10.	9.	9.	8.	8.	8.	7.	7.
6.	6.	5.	5.	5.	4.	4.	3.	3.	3.
2.	2.	2.	1.	1.	1.	0.			

O						END-OF-PERIOD FLOW						
MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q	MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q
1.01	.05	1	.01	.00	.01	0.	1.01	12.35	151	.21	.20	.01	1633.
1.01	.10	2	.01	.00	.01	0.	1.01	12.40	152	.21	.20	.01	1664.
1.01	.15	3	.01	.00	.01	0.	1.01	12.45	153	.21	.20	.01	1702.
1.01	.20	4	.01	.00	.01	0.	1.01	12.50	154	.21	.20	.01	1746.
1.01	.25	5	.01	.00	.01	0.	1.01	12.55	155	.21	.20	.00	1798.
1.01	.30	6	.01	.00	.01	0.	1.01	13.00	156	.21	.20	.00	1858.
1.01	.35	7	.01	.00	.01	0.	1.01	13.05	157	.25	.25	.01	1927.
1.01	.40	8	.01	.00	.01	0.	1.01	13.10	158	.25	.25	.00	2007.
1.01	.45	9	.01	.00	.01	0.	1.01	13.15	159	.25	.25	.00	2095.
1.01	.50	10	.01	.00	.01	0.	1.01	13.20	160	.25	.25	.00	2192.
1.01	.55	11	.01	.00	.01	0.	1.01	13.25	161	.25	.25	.00	2296.
1.01	1.00	12	.01	.00	.01	0.	1.01	13.30	162	.25	.25	.00	2408.
1.01	1.05	13	.01	.00	.01	0.	1.01	13.35	163	.25	.25	.00	2525.
1.01	1.10	14	.01	.00	.01	0.	1.01	13.40	164	.25	.25	.00	2647.
1.01	1.15	15	.01	.00	.01	0.	1.01	13.45	165	.25	.25	.00	2774.
1.01	1.20	16	.01	.00	.01	0.	1.01	13.50	166	.25	.25	.00	2905.
1.01	1.25	17	.01	.00	.01	0.	1.01	13.55	167	.25	.25	.00	3038.
1.01	1.30	18	.01	.00	.01	0.	1.01	14.00	168	.25	.25	.00	3173.
1.01	1.35	19	.01	.00	.01	0.	1.01	14.05	169	.31	.31	.00	3312.
1.01	1.40	20	.01	.00	.01	0.	1.01	14.10	170	.31	.31	.00	3453.
1.01	1.45	21	.01	.00	.01	0.	1.01	14.15	171	.31	.31	.00	3595.
1.01	1.50	22	.01	.00	.01	0.	1.01	14.20	172	.31	.31	.00	3738.
1.01	1.55	23	.01	.00	.01	0.	1.01	14.25	173	.31	.31	.00	3881.
1.01	2.00	24	.01	.00	.01	0.	1.01	14.30	174	.31	.31	.00	4024.
1.01	2.05	25	.01	.00	.01	0.	1.01	14.35	175	.31	.31	.00	4168.
1.01	2.10	26	.01	.00	.01	0.	1.01	14.40	176	.31	.31	.00	4310.
1.01	2.15	27	.01	.00	.01	0.	1.01	14.45	177	.31	.31	.00	4453.
1.01	2.20	28	.01	.00	.01	0.	1.01	14.50	178	.31	.31	.00	4594.
1.01	2.25	29	.01	.00	.01	1.	1.01	14.55	179	.31	.31	.00	4733.
1.01	2.30	30	.01	.00	.01	1.	1.01	15.00	180	.31	.31	.00	4871.
1.01	2.35	31	.01	.00	.01	1.	1.01	15.05	181	.19	.19	.00	5006.
1.01	2.40	32	.01	.00	.01	2.	1.01	15.10	182	.38	.38	.00	5139.
1.01	2.45	33	.01	.00	.01	2.	1.01	15.15	183	.38	.38	.00	5271.
1.01	2.50	34	.01	.00	.01	3.	1.01	15.20	184	.57	.57	.00	5402.
1.01	2.55	35	.01	.00	.01	4.	1.01	15.25	185	.67	.66	.00	5536.
1.01	3.00	36	.01	.00	.01	5.	1.01	15.30	186	1.62	1.61	.01	5685.
1.01	3.05	37	.01	.00	.01	6.	1.01	15.35	187	2.67	2.65	.01	5861.
1.01	3.10	38	.01	.00	.01	7.	1.01	15.40	188	1.05	1.04	.00	6055.
1.01	3.15	39	.01	.00	.01	9.	1.01	15.45	189	.67	.66	.00	6280.
1.01	3.20	40	.01	.00	.01	11.	1.01	15.50	190	.57	.57	.00	6527.
1.01	3.25	41	.01	.00	.01	12.	1.01	15.55	191	.38	.38	.00	6792.
1.01	3.30	42	.01	.00	.01	15.	1.01	16.00	192	.38	.38	.00	7076.
1.01	3.35	43	.01	.00	.01	17.	1.01	16.05	193	.29	.29	.00	7376.
1.01	3.40	44	.01	.00	.01	19.	1.01	16.10	194	.29	.29	.00	7705.

1.01	3.45	45	.01	.00	.01	22.	1.01	16.15	195	.29	.29	.00	8055.
1.01	3.50	46	.01	.01	.01	24.	1.01	16.20	196	.29	.29	.00	8433.
1.01	3.55	47	.01	.01	.01	27.	1.01	16.25	197	.29	.29	.00	8836.
1.01	4.00	48	.01	.01	.01	30.	1.01	16.30	198	.29	.29	.00	9256.
1.01	4.05	49	.01	.01	.01	33.	1.01	16.35	199	.29	.29	.00	9693.
1.01	4.10	50	.01	.01	.01	36.	1.01	16.40	200	.29	.29	.00	10121.
1.01	4.15	51	.01	.01	.01	40.	1.01	16.45	201	.29	.29	.00	10518.
1.01	4.20	52	.01	.01	.01	43.	1.01	16.50	202	.29	.29	.00	10888.
1.01	4.25	53	.01	.01	.01	46.	1.01	16.55	203	.29	.29	.00	11211.
1.01	4.30	54	.01	.01	.01	50.	1.01	17.00	204	.29	.29	.00	11490.
1.01	4.35	55	.01	.01	.01	54.	1.01	17.05	205	.23	.23	.00	11724.
1.01	4.40	56	.01	.01	.01	57.	1.01	17.10	206	.23	.23	.00	11903.
1.01	4.45	57	.01	.01	.01	61.	1.01	17.15	207	.23	.23	.00	12042.
1.01	4.50	58	.01	.01	.01	65.	1.01	17.20	208	.23	.23	.00	12126.
1.01	4.55	59	.01	.01	.01	69.	1.01	17.25	209	.23	.23	.00	12176.
1.01	5.00	60	.01	.01	.01	72.	1.01	17.30	210	.23	.23	.00	12194.
1.01	5.05	61	.01	.01	.01	76.	1.01	17.35	211	.23	.23	.00	12182.
1.01	5.10	62	.01	.01	.01	80.	1.01	17.40	212	.23	.23	.00	12133.
1.01	5.15	63	.01	.01	.01	84.	1.01	17.45	213	.23	.23	.00	12036.
1.01	5.20	64	.01	.01	.01	87.	1.01	17.50	214	.23	.23	.00	11917.
1.01	5.25	65	.01	.01	.01	91.	1.01	17.55	215	.23	.23	.00	11776.
1.01	5.30	66	.01	.01	.01	95.	1.01	18.00	216	.23	.23	.00	11620.
1.01	5.35	67	.01	.01	.01	99.	1.01	18.05	217	.02	.02	.00	11445.
1.01	5.40	68	.01	.01	.01	102.	1.01	18.10	218	.02	.02	.00	11251.
1.01	5.45	69	.01	.01	.01	106.	1.01	18.15	219	.02	.02	.00	11034.
1.01	5.50	70	.01	.01	.01	109.	1.01	18.20	220	.02	.02	.00	10788.
1.01	5.55	71	.01	.01	.01	113.	1.01	18.25	221	.02	.02	.00	10520.
1.01	6.00	72	.01	.01	.01	116.	1.01	18.30	222	.02	.02	.00	10228.
1.01	6.05	73	.07	.04	.03	120.	1.01	18.35	223	.02	.02	.00	9921.
1.01	6.10	74	.07	.04	.03	124.	1.01	18.40	224	.02	.02	.00	9614.
1.01	6.15	75	.07	.04	.02	129.	1.01	18.45	225	.02	.02	.00	9311.
1.01	6.20	76	.07	.04	.02	134.	1.01	18.50	226	.02	.02	.00	9013.
1.01	6.25	77	.07	.04	.02	141.	1.01	18.55	227	.02	.02	.00	8732.
1.01	6.30	78	.07	.05	.02	148.	1.01	19.00	228	.02	.02	.00	8450.
1.01	6.35	79	.07	.05	.02	156.	1.01	19.05	229	.02	.02	.00	8168.
1.01	6.40	80	.07	.05	.02	166.	1.01	19.10	230	.02	.02	.00	7882.
1.01	6.45	81	.07	.05	.02	177.	1.01	19.15	231	.02	.02	.00	7594.
1.01	6.50	82	.07	.05	.02	190.	1.01	19.20	232	.02	.02	.00	7307.
1.01	6.55	83	.07	.05	.02	205.	1.01	19.25	233	.02	.02	.00	7019.
1.01	7.00	84	.07	.05	.02	223.	1.01	19.30	234	.02	.02	.00	6737.
1.01	7.05	85	.07	.05	.01	242.	1.01	19.35	235	.02	.02	.00	6454.
1.01	7.10	86	.07	.05	.01	264.	1.01	19.40	236	.02	.02	.00	6172.
1.01	7.15	87	.07	.05	.01	289.	1.01	19.45	237	.02	.02	.00	5889.
1.01	7.20	88	.07	.05	.01	315.	1.01	19.50	238	.02	.02	.00	5610.
1.01	7.25	89	.07	.05	.01	344.	1.01	19.55	239	.02	.02	.00	5338.
1.01	7.30	90	.07	.05	.01	375.	1.01	20.00	240	.02	.02	.00	5071.
1.01	7.35	91	.07	.05	.01	407.	1.01	20.05	241	.02	.02	.00	4809.
1.01	7.40	92	.07	.05	.01	440.	1.01	20.10	242	.02	.02	.00	4554.
1.01	7.45	93	.07	.06	.01	475.	1.01	20.15	243	.02	.02	.00	4312.
1.01	7.50	94	.07	.06	.01	511.	1.01	20.20	244	.02	.02	.00	4082.
1.01	7.55	95	.07	.06	.01	547.	1.01	20.25	245	.02	.02	.00	3860.
1.01	8.00	96	.07	.06	.01	584.	1.01	20.30	246	.02	.02	.00	3646.
1.01	8.05	97	.07	.06	.01	621.	1.01	20.35	247	.02	.02	.00	3442.
1.01	8.10	98	.07	.06	.01	658.	1.01	20.40	248	.02	.02	.00	3249.
1.01	8.15	99	.07	.06	.01	696.	1.01	20.45	249	.02	.02	.00	3065.
1.01	8.20	100	.07	.06	.01	732.	1.01	20.50	250	.02	.02	.00	2891.

1.01	8.25	101	.07	.06	.01	769.	1.01	20.55	251	.02	.02	.00	2727.
1.01	8.30	102	.07	.06	.01	805.	1.01	21.00	252	.02	.02	.00	2574.
1.01	8.35	103	.07	.06	.01	840.	1.01	21.05	253	.02	.02	.00	2433.
1.01	8.40	104	.07	.06	.01	875.	1.01	21.10	254	.02	.02	.00	2303.
1.01	8.45	105	.07	.06	.01	908.	1.01	21.15	255	.02	.02	.00	2183.
1.01	8.50	106	.07	.06	.01	941.	1.01	21.20	256	.02	.02	.00	2071.
1.01	8.55	107	.07	.06	.01	973.	1.01	21.25	257	.02	.02	.00	1967.
1.01	9.00	108	.07	.06	.01	1003.	1.01	21.30	258	.02	.02	.00	1871.
1.01	9.05	109	.07	.06	.01	1032.	1.01	21.35	259	.02	.02	.00	1782.
1.01	9.10	110	.07	.06	.01	1059.	1.01	21.40	260	.02	.02	.00	1698.
1.01	9.15	111	.07	.06	.01	1086.	1.01	21.45	261	.02	.02	.00	1620.
1.01	9.20	112	.07	.06	.01	1111.	1.01	21.50	262	.02	.02	.00	1547.
1.01	9.25	113	.07	.06	.01	1134.	1.01	21.55	263	.02	.02	.00	1480.
1.01	9.30	114	.07	.06	.01	1157.	1.01	22.00	264	.02	.02	.00	1416.
1.01	9.35	115	.07	.06	.01	1179.	1.01	22.05	265	.02	.02	.00	1356.
1.01	9.40	116	.07	.06	.01	1200.	1.01	22.10	266	.02	.02	.00	1300.
1.01	9.45	117	.07	.06	.00	1220.	1.01	22.15	267	.02	.02	.00	1248.
1.01	9.50	118	.07	.06	.00	1239.	1.01	22.20	268	.02	.02	.00	1199.
1.01	9.55	119	.07	.06	.00	1257.	1.01	22.25	269	.02	.02	.00	1153.
1.01	10.00	120	.07	.06	.00	1275.	1.01	22.30	270	.02	.02	.00	1110.
1.01	10.05	121	.07	.06	.00	1291.	1.01	22.35	271	.02	.02	.00	1070.
1.01	10.10	122	.07	.06	.00	1307.	1.01	22.40	272	.02	.02	.00	1033.
1.01	10.15	123	.07	.06	.00	1322.	1.01	22.45	273	.02	.02	.00	998.
1.01	10.20	124	.07	.06	.00	1337.	1.01	22.50	274	.02	.02	.00	966.
1.01	10.25	125	.07	.06	.00	1351.	1.01	22.55	275	.02	.02	.00	935.
1.01	10.30	126	.07	.06	.00	1365.	1.01	23.00	276	.02	.02	.00	907.
1.01	10.35	127	.07	.06	.00	1378.	1.01	23.05	277	.02	.02	.00	881.
1.01	10.40	128	.07	.06	.00	1390.	1.01	23.10	278	.02	.02	.00	856.
1.01	10.45	129	.07	.06	.00	1402.	1.01	23.15	279	.02	.02	.00	833.
1.01	10.50	130	.07	.06	.00	1413.	1.01	23.20	280	.02	.02	.00	812.
1.01	10.55	131	.07	.06	.00	1423.	1.01	23.25	281	.02	.02	.00	793.
1.01	11.00	132	.07	.06	.00	1434.	1.01	23.30	282	.02	.02	.00	775.
1.01	11.05	133	.07	.06	.00	1443.	1.01	23.35	283	.02	.02	.00	758.
1.01	11.10	134	.07	.06	.00	1453.	1.01	23.40	284	.02	.02	.00	740.
1.01	11.15	135	.07	.06	.00	1462.	1.01	23.45	285	.02	.02	.00	723.
1.01	11.20	136	.07	.06	.00	1470.	1.01	23.50	286	.02	.02	.00	702.
1.01	11.25	137	.07	.06	.00	1478.	1.01	23.55	287	.02	.02	.00	675.
1.01	11.30	138	.07	.06	.00	1486.	1.02	.00	288	.02	.02	.00	659.
1.01	11.35	139	.07	.06	.00	1494.	1.02	.05	289	.00	.00	.00	647.
1.01	11.40	140	.07	.06	.00	1501.	1.02	.10	290	.00	.00	.00	636.
1.01	11.45	141	.07	.06	.00	1508.	1.02	.15	291	.00	.00	.00	627.
1.01	11.50	142	.07	.06	.00	1514.	1.02	.20	292	.00	.00	.00	617.
1.01	11.55	143	.07	.06	.00	1520.	1.02	.25	293	.00	.00	.00	608.
1.01	12.00	144	.07	.06	.00	1526.	1.02	.30	294	.00	.00	.00	599.
1.01	12.05	145	.21	.20	.01	1534.	1.02	.35	295	.00	.00	.00	590.
1.01	12.10	146	.21	.20	.01	1542.	1.02	.40	296	.00	.00	.00	580.
1.01	12.15	147	.21	.20	.01	1553.	1.02	.45	297	.00	.00	.00	570.
1.01	12.20	148	.21	.20	.01	1567.	1.02	.50	298	.00	.00	.00	559.
1.01	12.25	149	.21	.20	.01	1585.	1.02	.55	299	.00	.00	.00	547.
1.01	12.30	150	.21	.20	.01	1607.	1.02	1.00	300	.00	.00	.00	534.
									SUM	32.24	30.66	1.58	788422.
										(819.)	(779.)	(40.)	(22325.62)

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	42181.	8041.	2727.	2427.	788158.

CMS	345.	228.	77.	74.	22318.
INCHES		22.25	30.22	30.22	30.22
MM		565.15	767.50	767.50	767.50
AC-FT		3997.	5428.	5428.	5428.
THOUS CU M		4930.	6695.	6695.	6695.

HYDROGRAPH AT STAAREA 1 FOR PLAN 1, RTIO 1

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	122.	61.	27.	26.	7882.
CMS	3.	2.	1.	1.	223.
INCHES		.22	.30	.30	.30
MM		5.65	7.67	7.67	7.67
AC-FT		40.	54.	54.	54.
THOUS CU M		49.	67.	67.	67.

HYDROGRAPH AT STAAREA 1 FOR PLAN 1, RTIO 2

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	244.	161.	55.	53.	15763.
CMS	7.	5.	2.	1.	446.
INCHES		.45	.60	.60	.60
MM		11.30	15.35	15.35	15.35
AC-FT		80.	109.	109.	109.
THOUS CU M		99.	134.	134.	134.

HYDROGRAPH AT STAAREA 1 FOR PLAN 1, RTIO 3

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	366.	242.	82.	79.	23645.
CMS	10.	7.	2.	2.	670.
INCHES		.67	.91	.91	.91
MM		16.95	23.02	23.02	23.02
AC-FT		120.	163.	163.	163.
THOUS CU M		148.	201.	201.	201.

HYDROGRAPH AT STAAREA 1 FOR PLAN 1, RTIO 4

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	498.	322.	109.	105.	31526.
CMS	14.	9.	3.	3.	892.
INCHES		.89	1.21	1.21	1.21
MM		22.61	30.70	30.70	30.70
AC-FT		160.	217.	217.	217.
THOUS CU M		197.	268.	268.	268.

HYDROGRAPH AT STAAREA 1 FOR PLAN 1, RTIO 5

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	610.	403.	137.	131.	39408.
CMS	17.	11.	4.	4.	1116.
INCHES		1.11	1.51	1.51	1.51
MM		28.26	38.37	38.37	38.37
AC-FT		200.	271.	271.	271.
THOUS CU M		247.	335.	335.	335.

HYDROGRAPH AT STAAREA 1 FOR PLAN 1, RTIO 6

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	6097.	4030.	1368.	1314.	394079.
CMS	173.	114.	39.	37.	11159.
INCHES		11.13	15.11	15.11	15.11
MM		282.58	383.75	383.75	383.75
AC-FT		1999.	2714.	2714.	2714.
THOUS CU M		2465.	3348.	3348.	3348.

HYDROGRAPH AT STAAREA 1 FOR PLAN 1, RTIO 7

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	12194.	8061.	2737.	2627.	788158.
CMS	345.	228.	77.	74.	22318.
INCHES		22.25	30.22	30.22	30.22
MM		565.15	767.50	767.50	767.50
AC-FT		3997.	5428.	5428.	5428.
THOUS CU M		4930.	6695.	6695.	6695.

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HYDROGRAPH ROUTING

ROUTING THROUGH WELCH LAKE DAM

ISTAG	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
DAM 1	1	0	0	0	0	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
.0	.000	.00	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	.000	.000	.000	-787.	-1

STAGE	786.60	787.00	787.40	787.50	788.00	788.50	789.00	789.50	790.00	790.50
	791.00	792.00	793.00	794.00	795.00	796.00				

FLOW	.00	6.00	11.00	18.00	45.00	75.00	110.00	147.00	194.00	244.00
	279.00	371.00	464.00	538.00	581.00	627.00				
SURFACE AREA=	0.	8.	18.	52.						
CAPACITY=	0.	49.	92.	430.						
ELEVATION=	768.	787.	790.	800.						

CREL	SPWID	COQW	EXPW	ELEVL	COQL	CAREA	EXPL
786.6	.0	.0	.0	.0	.0	.0	.0

DAM DATA

TOPEL	COQD	EXPD	DAMWID
790.4	.0	.0	0.

CREST LENGTH	0.	30.	45.	71.	141.	320.	372.	494.	549.	632.
AT OR BELOW ELEVATION	789.3	789.4	789.6	789.8	790.5	790.8	791.0	791.5	792.3	795.2

DAM BREACH DATA

BRWID	Z	ELBM	TFAIL	WSEL	FAILEL
10.	.50	772.00	1.00	786.60	790.40

STATION DAM 1, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	2.	2.	2.	2.	2.	2.
2.	2.	2.	3.	3.	3.	3.	3.	3.	3.
3.	3.	4.	4.	4.	4.	4.	4.	4.	4.
5.	5.	5.	5.	5.	5.	5.	5.	5.	6.
6.	6.	6.	6.	6.	6.	6.	6.	6.	7.
7.	7.	7.	7.	7.	7.	7.	7.	8.	8.
8.	8.	8.	8.	8.	9.	9.	9.	9.	9.
10.	10.	10.	10.	11.	11.	12.	14.	16.	17.
18.	20.	21.	22.	23.	24.	25.	27.	28.	29.
30.	32.	33.	34.	36.	37.	39.	41.	42.	44.
46.	48.	51.	53.	55.	57.	59.	61.	63.	65.
67.	69.	70.	72.	73.	75.	76.	77.	79.	80.
81.	82.	82.	83.	83.	83.	84.	84.	84.	84.
83.	83.	83.	82.	82.	81.	80.	79.	79.	78.
77.	75.	74.	73.	72.	71.	70.	69.	68.	67.
65.	64.	63.	61.	60.	59.	58.	56.	55.	54.
53.	51.	50.	49.	48.	46.	45.	44.	43.	42.

788.1	788.1	788.1	788.2	788.2	788.2	788.3	788.3	788.3	788.4
788.4	788.4	788.5	788.5	788.5	788.6	788.6	788.7	788.7	788.8
788.8	788.9	789.0	789.0	789.1	789.1	789.2	789.2	789.3	789.3
789.4	789.4	789.5	789.5	789.5	789.6	789.6	789.6	789.6	789.6
789.7	789.7	789.7	789.7	789.7	789.7	789.7	789.7	789.7	789.7
789.6	789.6	789.6	789.6	789.6	789.6	789.6	789.5	789.5	789.5
789.5	789.5	789.4	789.4	789.4	789.4	789.3	789.3	789.3	789.2
789.2	789.2	789.1	789.1	789.1	789.0	789.0	789.0	788.9	788.9
788.9	788.8	788.8	788.8	788.7	788.7	788.7	788.6	788.6	788.6
788.6	788.5	788.5	788.5	788.4	788.4	788.4	788.4	788.3	788.3
788.3	788.3	788.2	788.2	788.2	788.2	788.1	788.1	788.1	788.1
788.0	788.0	788.0	788.0	788.0	787.9	787.9	787.9	787.9	787.9

EAK OUTFLOW IS 186. AT TIME 18.75 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	186.	137.	49.	47.	14015.
CMS	5.	4.	1.	1.	397.
INCHES		.38	.54	.54	.54
MM		9.63	13.65	13.65	13.65
AC-FT		68.	97.	97.	97.
THOUS CU M		84.	119.	119.	119.

STATION DAM 1, PLAN 1, RATIO 3

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	2.	2.	2.
2.	2.	2.	2.	2.	3.	3.	3.	3.	4.
4.	4.	4.	4.	5.	5.	5.	6.	6.	6.
6.	7.	7.	7.	7.	8.	8.	8.	9.	9.
9.	9.	10.	10.	10.	10.	11.	11.	12.	14.
15.	16.	18.	19.	20.	20.	21.	22.	23.	24.
24.	25.	26.	27.	27.	28.	29.	29.	30.	30.
31.	32.	32.	33.	34.	34.	35.	36.	37.	38.
39.	40.	41.	42.	43.	45.	46.	48.	49.	51.
53.	55.	57.	59.	61.	63.	66.	68.	70.	72.
75.	78.	80.	83.	86.	89.	92.	95.	98.	101.
104.	108.	111.	115.	119.	123.	128.	132.	138.	145.
153.	164.	177.	190.	204.	218.	233.	247.	261.	273.
285.	295.	304.	312.	318.	323.	326.	328.	329.	329.
327.	325.	322.	318.	313.	308.	302.	296.	290.	284.
277.	271.	264.	257.	250.	243.	237.	230.	223.	216.
210.	203.	197.	191.	185.	179.	173.	168.	163.	158.

153.	149.	146.	142.	139.	136.	134.	131.	129.	126.
124.	121.	119.	116.	114.	111.	109.	106.	104.	102.
99.	97.	95.	93.	91.	88.	86.	84.	82.	80.
78.	76.	74.	73.	71.	69.	68.	66.	65.	63.
62.	60.	59.	58.	56.	55.	54.	53.	51.	50.

STORAGE

49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	50.	50.	50.	50.
50.	50.	50.	50.	50.	50.	50.	50.	51.	51.
51.	51.	51.	51.	51.	51.	52.	52.	52.	52.
52.	53.	53.	53.	53.	53.	53.	54.	54.	54.
54.	54.	55.	55.	55.	55.	56.	56.	56.	56.
56.	57.	57.	57.	57.	57.	57.	58.	58.	58.
58.	58.	58.	58.	58.	59.	59.	59.	59.	59.
59.	59.	59.	60.	60.	60.	60.	60.	60.	61.
61.	61.	61.	61.	62.	62.	62.	63.	63.	63.
64.	64.	64.	65.	65.	66.	66.	67.	67.	68.
68.	69.	69.	70.	70.	71.	71.	72.	73.	73.
74.	75.	75.	76.	77.	78.	79.	80.	81.	82.
83.	84.	85.	86.	87.	88.	89.	90.	91.	91.
92.	93.	93.	93.	94.	94.	94.	94.	94.	94.
94.	94.	94.	94.	93.	93.	93.	93.	92.	92.
92.	91.	91.	91.	90.	90.	89.	89.	89.	88.
88.	87.	87.	86.	86.	85.	85.	84.	84.	83.
83.	82.	82.	81.	81.	80.	80.	79.	79.	78.
78.	77.	77.	76.	76.	75.	75.	74.	74.	73.
73.	73.	72.	72.	71.	71.	70.	70.	70.	69.
69.	68.	68.	68.	67.	67.	67.	66.	66.	66.
65.	65.	65.	65.	64.	64.	64.	64.	63.	63.

STAGE

786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.7	786.7	786.7	786.7	786.7
786.7	786.7	786.7	786.7	786.7	786.7	786.7	786.7	786.7	786.7
786.7	786.7	786.7	786.8	786.8	786.8	786.8	786.8	786.8	786.8
786.8	786.9	786.9	786.9	786.9	786.9	787.0	787.0	787.0	787.0
787.0	787.1	787.1	787.1	787.1	787.1	787.2	787.2	787.2	787.2
787.2	787.3	787.3	787.3	787.3	787.4	787.4	787.4	787.4	787.4
787.5	787.5	787.5	787.5	787.5	787.5	787.6	787.6	787.6	787.6
787.6	787.6	787.6	787.7	787.7	787.7	787.7	787.7	787.7	787.7
787.7	787.8	787.8	787.8	787.8	787.8	787.8	787.8	787.8	787.9
787.9	787.9	787.9	787.9	788.0	788.0	788.0	788.0	788.1	788.1

788.1	788.2	788.2	788.2	788.3	788.3	788.3	788.4	788.4	788.5
788.5	788.5	788.6	788.6	788.7	788.7	788.7	788.8	788.8	788.9
788.9	789.0	789.0	789.1	789.1	789.2	789.2	789.3	789.4	789.4
789.5	789.6	789.6	789.7	789.8	789.8	789.9	789.9	790.0	790.0
790.0	790.1	790.1	790.1	790.1	790.1	790.1	790.1	790.1	790.1
790.1	790.1	790.1	790.1	790.1	790.1	790.1	790.1	790.0	790.0
790.0	790.0	790.0	789.9	789.9	789.9	789.9	789.9	789.8	789.8
789.8	789.8	789.7	789.7	789.7	789.6	789.6	789.6	789.6	789.5
789.5	789.5	789.4	789.4	789.4	789.3	789.3	789.3	789.3	789.2
789.2	789.2	789.1	789.1	789.0	789.0	789.0	788.9	788.9	788.9
788.8	788.8	788.8	788.8	788.7	788.7	788.7	788.6	788.6	788.6
788.5	788.5	788.5	788.5	788.4	788.4	788.4	788.4	788.3	788.3
788.3	788.3	788.2	788.2	788.2	788.2	788.1	788.1	788.1	788.1

PEAK OUTFLOW IS 329. AT TIME 18.25 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	329.	216.	75.	72.	21556.
CMS	9.	6.	2.	2.	610.
INCHES		.60	.83	.83	.83
MM		15.12	20.99	20.99	20.99
AC-FT		107.	148.	148.	148.
THOUS CU M		132.	183.	183.	183.

STATION DAM 1, PLAN 1, RATIO 4

BEGIN DAM FAILURE AT 17.75 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	2.	2.	2.	2.	2.	2.	2.
2.	3.	3.	3.	3.	4.	4.	4.	4.	5.
5.	5.	6.	6.	6.	7.	7.	7.	7.	8.
8.	8.	9.	9.	9.	10.	10.	10.	11.	12.
14.	16.	17.	19.	20.	21.	23.	24.	25.	26.
27.	28.	29.	30.	31.	32.	33.	34.	35.	35.
36.	37.	38.	39.	39.	40.	41.	41.	42.	43.
44.	44.	45.	46.	47.	48.	49.	50.	51.	52.
53.	55.	56.	58.	59.	61.	63.	65.	67.	69.
72.	74.	77.	80.	83.	86.	89.	92.	95.	98.
102.	105.	108.	112.	116.	119.	123.	127.	130.	135.
139.	146.	153.	163.	174.	186.	200.	215.	232.	250.
269.	289.	310.	330.	350.	368.	386.	402.	416.	428.
438.	446.	453.	461.	492.	557.	657.	795.	971.	1190.

STATION DAM 1, PLAN 1, RATIO 6

EGIN DAM FAILURE AT 9.58 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	1.	1.	1.	1.	1.	1.	1.	2.
2.	2.	2.	3.	3.	3.	4.	4.	4.	5.
5.	5.	6.	6.	7.	7.	7.	8.	8.	9.
9.	9.	10.	10.	11.	13.	15.	18.	20.	22.
25.	27.	29.	32.	35.	38.	41.	45.	49.	53.
58.	63.	69.	74.	81.	88.	95.	103.	111.	119.
127.	136.	148.	166.	187.	212.	239.	269.	299.	330.
361.	390.	419.	445.	470.	497.	546.	629.	743.	900.
1088.	1312.	1579.	1897.	2220.	2478.	2611.	2079.	1673.	1373.
1158.	1010.	910.	845.	804.	779.	764.	756.	752.	751.
751.	753.	755.	757.	760.	763.	767.	771.	777.	785.
794.	805.	818.	833.	852.	874.	899.	928.	962.	999.
1041.	1086.	1135.	1187.	1242.	1299.	1359.	1420.	1483.	1547.
1613.	1680.	1748.	1816.	1884.	1953.	2022.	2091.	2160.	2228.
2296.	2363.	2429.	2495.	2560.	2627.	2697.	2774.	2855.	2941.
3037.	3144.	3255.	3373.	3496.	3629.	3768.	3915.	4077.	4266.
4482.	4714.	4973.	5249.	5495.	5690.	5836.	5941.	6010.	6053.
6074.	6077.	6059.	6022.	5971.	5908.	5836.	5756.	5665.	5565.
5455.	5335.	5208.	5078.	4949.	4826.	4710.	4597.	4481.	4365.
4249.	4135.	4021.	3908.	3790.	3662.	3527.	3385.	3237.	3084.
2932.	2781.	2628.	2483.	2346.	2214.	2088.	1968.	1854.	1746.
1643.	1546.	1454.	1369.	1290.	1217.	1149.	1086.	1028.	974.
925.	879.	836.	796.	759.	725.	693.	663.	635.	609.
585.	563.	542.	521.	504.	487.	471.	457.	443.	431.
419.	408.	398.	389.	379.	370.	359.	349.	340.	332.
325.	319.	314.	309.	304.	299.	294.	289.	284.	278.

STORAGE

49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	50.	50.
50.	50.	50.	50.	50.	50.	51.	51.	51.	51.
51.	52.	52.	52.	52.	53.	53.	53.	54.	54.
54.	55.	55.	55.	56.	56.	56.	57.	57.	58.
58.	58.	59.	59.	60.	61.	61.	62.	63.	64.
65.	66.	67.	68.	69.	71.	72.	74.	75.	77.
79.	80.	82.	84.	86.	88.	90.	91.	93.	94.
96.	97.	98.	99.	100.	100.	101.	101.	101.	99.
97.	93.	89.	81.	71.	59.	47.	35.	27.	21.
18.	15.	13.	12.	12.	11.	11.	11.	11.	11.
11.	11.	11.	11.	11.	11.	11.	11.	11.	11.

12.	12.	12.	12.	12.	13.	13.	14.	14.	15.
16.	16.	17.	18.	19.	20.	21.	22.	24.	25.
26.	27.	29.	30.	31.	33.	34.	35.	37.	38.
40.	41.	43.	44.	45.	47.	48.	50.	52.	54.
56.	59.	62.	65.	68.	72.	77.	81.	86.	92.
97.	102.	107.	111.	114.	116.	118.	119.	119.	120.
120.	120.	120.	119.	119.	118.	118.	117.	116.	115.
113.	112.	110.	109.	107.	105.	102.	100.	97.	94.
91.	88.	85.	81.	77.	73.	69.	65.	61.	58.
54.	50.	47.	44.	41.	38.	35.	33.	31.	29.
27.	25.	23.	21.	20.	19.	17.	16.	15.	14.
14.	13.	12.	12.	11.	10.	10.	10.	9.	9.
8.	8.	8.	7.	7.	7.	7.	7.	6.	6.
6.	6.	6.	6.	5.	5.	5.	5.	5.	5.
5.	5.	5.	5.	4.	4.	4.	4.	4.	4.

STAGE

786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.7	786.7	786.7	786.7	786.7	786.7
786.7	786.7	786.8	786.8	786.8	786.8	786.8	786.9	786.9	786.9
786.9	787.0	787.0	787.0	787.0	787.1	787.1	787.1	787.2	787.2
787.2	787.3	787.3	787.4	787.4	787.4	787.5	787.5	787.5	787.6
787.6	787.7	787.7	787.8	787.8	787.9	787.9	788.0	788.1	788.1
788.2	788.3	788.4	788.5	788.6	788.7	788.8	788.9	789.0	789.1
789.2	789.3	789.5	789.6	789.7	789.8	789.9	790.0	790.1	790.1
790.2	790.3	790.3	790.4	790.4	790.5	790.5	790.5	790.5	790.4
790.3	790.1	789.8	789.4	788.7	787.8	786.3	784.6	783.2	782.1
781.1	780.5	780.0	779.6	779.4	779.3	779.2	779.1	779.1	779.1
779.1	779.1	779.1	779.2	779.2	779.2	779.2	779.2	779.3	779.3
779.4	779.4	779.5	779.6	779.7	779.8	779.9	780.1	780.2	780.4
780.6	780.8	781.0	781.3	781.5	781.7	782.0	782.2	782.5	782.7
783.0	783.2	783.5	783.7	784.0	784.2	784.5	784.7	784.9	785.1
785.3	785.6	785.8	786.0	786.2	786.4	786.6	786.8	787.0	787.2
787.5	787.7	788.0	788.2	788.5	788.8	789.1	789.4	789.7	790.0
790.3	790.6	790.8	791.0	791.1	791.2	791.3	791.4	791.4	791.4
791.4	791.4	791.4	791.4	791.4	791.3	791.3	791.3	791.2	791.2
791.1	791.0	791.0	790.9	790.8	790.7	790.6	790.4	790.3	790.2
790.0	789.8	789.6	789.4	789.1	788.9	788.6	788.3	787.9	787.6
787.2	786.8	786.4	785.9	785.5	785.1	784.7	784.3	783.9	783.5
783.1	782.7	782.4	782.0	781.7	781.4	781.1	780.8	780.5	780.3
780.0	779.8	779.6	779.4	779.2	779.0	778.8	778.6	778.5	778.3
778.2	778.0	777.9	777.8	777.6	777.5	777.4	777.3	777.2	777.1
777.0	777.0	776.9	776.8	776.8	776.7	776.6	776.5	776.4	776.4
776.3	776.3	776.2	776.2	776.2	776.1	776.1	776.0	776.0	775.9

PEAK OUTFLOW IS 6077. AT TIME 17.67 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	6077.	4018.	1391.	1335.	400555.
CMS	172.	114.	39.	38.	11342.
INCHES		11.09	15.36	15.36	15.36
MM		281.73	390.05	390.05	390.05

STATION DAM 1, PLAN 1, RATIO 7

BEGIN DAM FAILURE AT 8.42 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	1.	1.	2.	2.	2.	2.	3.	3.
4.	4.	5.	5.	6.	6.	7.	7.	8.	8.
9.	10.	10.	11.	15.	18.	21.	24.	27.	29.
32.	35.	38.	40.	43.	46.	49.	53.	56.	59.
63.	67.	71.	76.	81.	87.	94.	101.	109.	117.
126.	136.	150.	173.	202.	239.	282.	331.	383.	438.
495.	554.	641.	764.	915.	1092.	1295.	1534.	1804.	2116.
2477.	2832.	3088.	2587.	2193.	1904.	1698.	1555.	1460.	1399.
1362.	1342.	1334.	1333.	1336.	1343.	1352.	1362.	1373.	1384.
1395.	1405.	1416.	1426.	1436.	1445.	1454.	1463.	1471.	1479.
1487.	1495.	1502.	1508.	1515.	1522.	1530.	1539.	1551.	1564.
1581.	1602.	1627.	1656.	1691.	1732.	1780.	1836.	1899.	1970.
2049.	2136.	2230.	2330.	2435.	2546.	2661.	2782.	2901.	3018.
3145.	3268.	3391.	3513.	3636.	3758.	3880.	4004.	4139.	4285.
4443.	4606.	4773.	4957.	5153.	5346.	5540.	5740.	5955.	6191.
6448.	6725.	7019.	7333.	7670.	8031.	8418.	8828.	9258.	9696.
10122.	10522.	10889.	11212.	11490.	11718.	11897.	12030.	12116.	12165.
12181.	12164.	12108.	12015.	11896.	11756.	11598.	11422.	11226.	11005.
10760.	10492.	10204.	9905.	9604.	9306.	9017.	8736.	8457.	8179.
7899.	7618.	7338.	7061.	6786.	6514.	6246.	5983.	5727.	5479.
5241.	5018.	4817.	4639.	4464.	4291.	4127.	3968.	3813.	3645.
3468.	3285.	3100.	2918.	2743.	2576.	2423.	2283.	2154.	2036.
1926.	1825.	1733.	1647.	1567.	1493.	1425.	1362.	1303.	1248.
1196.	1149.	1105.	1064.	1026.	990.	957.	927.	898.	872.
848.	825.	804.	785.	766.	747.	725.	704.	686.	670.
655.	643.	632.	621.	611.	601.	591.	581.	571.	559.

STORAGE

49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	49.	49.	49.	49.	49.	49.
49.	49.	49.	49.	50.	50.	50.	50.	50.	50.
51.	51.	51.	52.	52.	52.	53.	53.	53.	54.
54.	55.	55.	56.	56.	57.	57.	58.	58.	59.
59.	60.	61.	61.	62.	62.	63.	64.	64.	65.
66.	67.	67.	68.	69.	71.	72.	73.	75.	77.
78.	80.	83.	85.	87.	90.	92.	94.	96.	99.
100.	102.	104.	105.	105.	105.	103.	100.	96.	89.
81.	70.	58.	46.	38.	32.	28.	25.	23.	22.
21.	21.	21.	21.	21.	21.	21.	21.	21.	22.
22.	22.	22.	22.	23.	23.	23.	23.	23.	23.

25.	26.	26.	27.	27.	28.	29.	30.	32.	33.
35.	36.	38.	40.	43.	45.	48.	50.	53.	56.
59.	62.	65.	69.	73.	76.	80.	84.	88.	92.
96.	100.	104.	107.	110.	112.	114.	117.	119.	121.
123.	126.	128.	131.	133.	136.	139.	142.	145.	148.
151.	153.	156.	158.	159.	161.	162.	163.	163.	164.
164.	164.	163.	163.	162.	161.	160.	159.	158.	156.
155.	153.	151.	149.	147.	145.	143.	141.	139.	137.
135.	133.	131.	129.	126.	124.	122.	119.	116.	114.
111.	108.	104.	101.	97.	92.	88.	83.	78.	73.
68.	63.	58.	53.	49.	46.	42.	39.	37.	34.
32.	30.	28.	27.	25.	24.	22.	21.	20.	19.
18.	17.	17.	16.	15.	15.	14.	14.	13.	13.
12.	12.	12.	11.	11.	11.	10.	10.	10.	10.
9.	9.	9.	9.	9.	9.	8.	8.	8.	8.

STAGE

786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6	786.6
786.6	786.7	786.7	786.7	786.7	786.7	786.7	786.8	786.8	786.8
786.8	786.9	786.9	786.9	787.0	787.0	787.1	787.1	787.1	787.2
787.2	787.3	787.3	787.4	787.5	787.5	787.6	787.6	787.7	787.7
787.8	787.8	787.9	787.9	788.0	788.0	788.1	788.1	788.2	788.2
788.3	788.4	788.4	788.5	788.6	788.7	788.8	788.9	789.0	789.1
789.2	789.3	789.5	789.6	789.8	789.9	790.0	790.1	790.3	790.4
790.5	790.6	790.6	790.7	790.7	790.7	790.6	790.5	790.2	789.9
789.4	788.7	787.6	786.2	785.0	784.1	783.3	782.8	782.4	782.2
782.0	781.9	781.9	781.9	781.9	781.9	782.0	782.0	782.1	782.1
782.1	782.2	782.2	782.3	782.3	782.3	782.4	782.4	782.5	782.5
782.5	782.5	782.6	782.6	782.6	782.7	782.7	782.7	782.8	782.8
782.9	783.0	783.1	783.2	783.3	783.4	783.6	783.8	784.0	784.3
784.5	784.8	785.1	785.5	785.8	786.1	786.5	786.8	787.1	787.4
787.7	788.0	788.3	788.6	788.8	789.1	789.3	789.6	789.8	790.0
790.3	790.4	790.6	790.8	790.9	791.1	791.2	791.3	791.4	791.5
791.6	791.7	791.8	791.9	792.0	792.1	792.2	792.4	792.5	792.6
792.7	792.8	792.9	793.0	793.0	793.1	793.1	793.2	793.2	793.2
793.2	793.2	793.2	793.2	793.1	793.1	793.1	793.0	793.0	792.9
792.9	792.8	792.7	792.6	792.6	792.5	792.4	792.3	792.2	792.2
792.1	792.0	791.9	791.8	791.7	791.6	791.5	791.4	791.3	791.1
791.0	790.8	790.7	790.5	790.3	790.0	789.8	789.5	789.2	788.8
788.5	788.0	787.6	787.2	786.7	786.2	785.7	785.3	784.9	784.5
784.1	783.8	783.4	783.1	782.8	782.5	782.3	782.0	781.8	781.5
781.3	781.1	780.9	780.7	780.5	780.4	780.2	780.0	779.9	779.8
779.6	779.5	779.4	779.3	779.2	779.1	779.0	778.9	778.8	778.7
778.6	778.5	778.4	778.4	778.3	778.3	778.2	778.1	778.1	778.0

EAK OUTFLOW IS 12181. AT TIME 17.58 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	12181.	8025.	2757.	2647.	794080.
CMS	345.	227.	78.	75.	22486.
INCHES		22.15	30.44	30.44	30.44
MM		562.66	773.26	773.26	773.26

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SUB-AREA RUNOFF COMPUTATION

RUNOFF CALCULATIONS FOR U/S HAGAN LAKE

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
	AREA 2	0	0	0	0	3	1	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	2	.19	.00	.19	1.00	.000	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
.00	24.80	100.00	120.00	130.00	.00	.00	.00

LOSS DATA

LROPT	STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0	.00	.00	1.00	.00	.00	1.00	-1.00	-93.00	.00	.00

CURVE NO = -93.00 WETNESS = -1.00 EFFECT CN = 93.00

UNIT HYDROGRAPH DATA
TC= .00 LAG= .19

RECESSION DATA
STRTQ= .00 QRCSN= .00 RTIOR= 1.00

UNIT HYDROGRAPH 13 END OF PERIOD ORDINATES, TC= .00 HOURS, LAG= .19 VOL= 1.00

110. 349. 404. 292. 152. 85. 47. 26. 14. 8.
4. 3. 1.

0 END-OF-PERIOD FLOW

MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q	MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q
1.01	.05	1	.01	.00	.01	0.	1.01	12.35	151	.21	.20	.00	298.
1.01	.10	2	.01	.00	.01	0.	1.01	12.40	152	.21	.20	.00	302.
1.01	.15	3	.01	.00	.01	0.	1.01	12.45	153	.21	.20	.00	304.
1.01	.20	4	.01	.00	.01	0.	1.01	12.50	154	.21	.21	.00	305.
1.01	.25	5	.01	.00	.01	0.	1.01	12.55	155	.21	.21	.00	306.
1.01	.30	6	.01	.00	.01	0.	1.01	13.00	156	.21	.21	.00	306.
1.01	.35	7	.01	.00	.01	0.	1.01	13.05	157	.25	.25	.00	311.
1.01	.40	8	.01	.00	.01	0.	1.01	13.10	158	.25	.25	.00	325.
1.01	.45	9	.01	.00	.01	0.	1.01	13.15	159	.25	.25	.00	342.
1.01	.50	10	.01	.00	.01	0.	1.01	13.20	160	.25	.25	.00	354.
1.01	.55	11	.01	.00	.01	0.	1.01	13.25	161	.25	.25	.00	360.
1.01	1.00	12	.01	.00	.01	0.	1.01	13.30	162	.25	.25	.00	364.
1.01	1.05	13	.01	.00	.01	0.	1.01	13.35	163	.25	.25	.00	366.
1.01	1.10	14	.01	.00	.01	1.	1.01	13.40	164	.25	.25	.00	367.
1.01	1.15	15	.01	.00	.01	1.	1.01	13.45	165	.25	.25	.00	368.
1.01	1.20	16	.01	.00	.01	2.	1.01	13.50	166	.25	.25	.00	368.

1.01	1.25	17	.01	.00	.01	2.	1.01	13.55	167	.25	.25	.00	369.
1.01	1.30	18	.01	.00	.01	3.	1.01	14.00	168	.25	.25	.00	369.
1.01	1.35	19	.01	.00	.01	3.	1.01	14.05	169	.31	.31	.00	376.
1.01	1.40	20	.01	.00	.01	4.	1.01	14.10	170	.31	.31	.00	397.
1.01	1.45	21	.01	.00	.01	4.	1.01	14.15	171	.31	.31	.00	422.
1.01	1.50	22	.01	.00	.01	5.	1.01	14.20	172	.31	.31	.00	440.
1.01	1.55	23	.01	.00	.01	5.	1.01	14.25	173	.31	.31	.00	450.
1.01	2.00	24	.01	.00	.01	6.	1.01	14.30	174	.31	.31	.00	455.
1.01	2.05	25	.01	.00	.01	6.	1.01	14.35	175	.31	.31	.00	458.
1.01	2.10	26	.01	.01	.01	7.	1.01	14.40	176	.31	.31	.00	460.
1.01	2.15	27	.01	.01	.01	7.	1.01	14.45	177	.31	.31	.00	461.
1.01	2.20	28	.01	.01	.01	8.	1.01	14.50	178	.31	.31	.00	461.
1.01	2.25	29	.01	.01	.01	8.	1.01	14.55	179	.31	.31	.00	462.
1.01	2.30	30	.01	.01	.01	8.	1.01	15.00	180	.31	.31	.00	462.
1.01	2.35	31	.01	.01	.01	9.	1.01	15.05	181	.19	.19	.00	449.
1.01	2.40	32	.01	.01	.01	9.	1.01	15.10	182	.38	.38	.00	427.
1.01	2.45	33	.01	.01	.01	9.	1.01	15.15	183	.38	.38	.00	444.
1.01	2.50	34	.01	.01	.01	10.	1.01	15.20	184	.57	.56	.00	505.
1.01	2.55	35	.01	.01	.01	10.	1.01	15.25	185	.66	.66	.00	617.
1.01	3.00	36	.01	.01	.01	10.	1.01	15.30	186	1.60	1.60	.00	848.
1.01	3.05	37	.01	.01	.01	10.	1.01	15.35	187	2.64	2.64	.00	1393.
1.01	3.10	38	.01	.01	.01	11.	1.01	15.40	188	1.04	1.04	.00	2021.
1.01	3.15	39	.01	.01	.01	11.	1.01	15.45	189	.66	.66	.00	2148.
1.01	3.20	40	.01	.01	.01	11.	1.01	15.50	190	.57	.56	.00	1824.
1.01	3.25	41	.01	.01	.01	11.	1.01	15.55	191	.38	.38	.00	1398.
1.01	3.30	42	.01	.01	.01	12.	1.01	16.00	192	.38	.38	.00	1080.
1.01	3.35	43	.01	.01	.01	12.	1.01	16.05	193	.29	.29	.00	849.
1.01	3.40	44	.01	.01	.01	12.	1.01	16.10	194	.29	.29	.00	684.
1.01	3.45	45	.01	.01	.01	12.	1.01	16.15	195	.29	.29	.00	577.
1.01	3.50	46	.01	.01	.01	12.	1.01	16.20	196	.29	.29	.00	511.
1.01	3.55	47	.01	.01	.01	13.	1.01	16.25	197	.29	.29	.00	476.
1.01	4.00	48	.01	.01	.00	13.	1.01	16.30	198	.29	.29	.00	456.
1.01	4.05	49	.01	.01	.00	13.	1.01	16.35	199	.29	.29	.00	443.
1.01	4.10	50	.01	.01	.00	13.	1.01	16.40	200	.29	.29	.00	437.
1.01	4.15	51	.01	.01	.00	13.	1.01	16.45	201	.29	.29	.00	434.
1.01	4.20	52	.01	.01	.00	13.	1.01	16.50	202	.29	.29	.00	433.
1.01	4.25	53	.01	.01	.00	14.	1.01	16.55	203	.29	.29	.00	432.
1.01	4.30	54	.01	.01	.00	14.	1.01	17.00	204	.29	.29	.00	432.
1.01	4.35	55	.01	.01	.00	14.	1.01	17.05	205	.23	.23	.00	425.
1.01	4.40	56	.01	.01	.00	14.	1.01	17.10	206	.23	.23	.00	403.
1.01	4.45	57	.01	.01	.00	14.	1.01	17.15	207	.23	.23	.00	378.
1.01	4.50	58	.01	.01	.00	14.	1.01	17.20	208	.23	.23	.00	360.
1.01	4.55	59	.01	.01	.00	14.	1.01	17.25	209	.23	.23	.00	351.
1.01	5.00	60	.01	.01	.00	15.	1.01	17.30	210	.23	.23	.00	346.
1.01	5.05	61	.01	.01	.00	15.	1.01	17.35	211	.23	.23	.00	343.
1.01	5.10	62	.01	.01	.00	15.	1.01	17.40	212	.23	.23	.00	341.
1.01	5.15	63	.01	.01	.00	15.	1.01	17.45	213	.23	.23	.00	340.
1.01	5.20	64	.01	.01	.00	15.	1.01	17.50	214	.23	.23	.00	340.
1.01	5.25	65	.01	.01	.00	15.	1.01	17.55	215	.23	.23	.00	340.
1.01	5.30	66	.01	.01	.00	15.	1.01	18.00	216	.23	.23	.00	339.
1.01	5.35	67	.01	.01	.00	15.	1.01	18.05	217	.02	.02	.00	317.
1.01	5.40	68	.01	.01	.00	15.	1.01	18.10	218	.02	.02	.00	245.
1.01	5.45	69	.01	.01	.00	15.	1.01	18.15	219	.02	.02	.00	161.
1.01	5.50	70	.01	.01	.00	16.	1.01	18.20	220	.02	.02	.00	101.
1.01	5.55	71	.01	.01	.00	16.	1.01	18.25	221	.02	.02	.00	70.
1.01	6.00	72	.01	.01	.00	16.	1.01	18.30	222	.02	.02	.00	62.

1.01	6.05	73	.07	.05	.01	21.	1.01	18.35	223	.02	.02	.00	42.
1.01	6.10	74	.07	.06	.01	36.	1.01	18.40	224	.02	.02	.00	37.
1.01	6.15	75	.07	.06	.01	54.	1.01	18.45	225	.02	.02	.00	34.
1.01	6.20	76	.07	.06	.01	68.	1.01	18.50	226	.02	.02	.00	32.
1.01	6.25	77	.07	.06	.01	76.	1.01	18.55	227	.02	.02	.00	32.
1.01	6.30	78	.07	.06	.01	80.	1.01	19.00	228	.02	.02	.00	31.
1.01	6.35	79	.07	.06	.01	84.	1.01	19.05	229	.02	.02	.00	31.
1.01	6.40	80	.07	.06	.01	86.	1.01	19.10	230	.02	.02	.00	31.
1.01	6.45	81	.07	.06	.01	88.	1.01	19.15	231	.02	.02	.00	31.
1.01	6.50	82	.07	.06	.01	89.	1.01	19.20	232	.02	.02	.00	31.
1.01	6.55	83	.07	.06	.01	90.	1.01	19.25	233	.02	.02	.00	31.
1.01	7.00	84	.07	.06	.01	91.	1.01	19.30	234	.02	.02	.00	31.
1.01	7.05	85	.07	.06	.01	92.	1.01	19.35	235	.02	.02	.00	31.
1.01	7.10	86	.07	.06	.01	92.	1.01	19.40	236	.02	.02	.00	31.
1.01	7.15	87	.07	.06	.01	93.	1.01	19.45	237	.02	.02	.00	31.
1.01	7.20	88	.07	.06	.01	93.	1.01	19.50	238	.02	.02	.00	31.
1.01	7.25	89	.07	.06	.01	94.	1.01	19.55	239	.02	.02	.00	31.
1.01	7.30	90	.07	.06	.00	94.	1.01	20.00	240	.02	.02	.00	31.
1.01	7.35	91	.07	.06	.00	95.	1.01	20.05	241	.02	.02	.00	31.
1.01	7.40	92	.07	.06	.00	95.	1.01	20.10	242	.02	.02	.00	31.
1.01	7.45	93	.07	.06	.00	96.	1.01	20.15	243	.02	.02	.00	31.
1.01	7.50	94	.07	.06	.00	96.	1.01	20.20	244	.02	.02	.00	31.
1.01	7.55	95	.07	.06	.00	96.	1.01	20.25	245	.02	.02	.00	31.
1.01	8.00	96	.07	.07	.00	97.	1.01	20.30	246	.02	.02	.00	31.
1.01	8.05	97	.07	.07	.00	97.	1.01	20.35	247	.02	.02	.00	31.
1.01	8.10	98	.07	.07	.00	97.	1.01	20.40	248	.02	.02	.00	31.
1.01	8.15	99	.07	.07	.00	97.	1.01	20.45	249	.02	.02	.00	31.
1.01	8.20	100	.07	.07	.00	98.	1.01	20.50	250	.02	.02	.00	31.
1.01	8.25	101	.07	.07	.00	98.	1.01	20.55	251	.02	.02	.00	31.
1.01	8.30	102	.07	.07	.00	98.	1.01	21.00	252	.02	.02	.00	31.
1.01	8.35	103	.07	.07	.00	98.	1.01	21.05	253	.02	.02	.00	31.
1.01	8.40	104	.07	.07	.00	98.	1.01	21.10	254	.02	.02	.00	31.
1.01	8.45	105	.07	.07	.00	99.	1.01	21.15	255	.02	.02	.00	31.
1.01	8.50	106	.07	.07	.00	99.	1.01	21.20	256	.02	.02	.00	31.
1.01	8.55	107	.07	.07	.00	99.	1.01	21.25	257	.02	.02	.00	31.
1.01	9.00	108	.07	.07	.00	99.	1.01	21.30	258	.02	.02	.00	31.
1.01	9.05	109	.07	.07	.00	99.	1.01	21.35	259	.02	.02	.00	31.
1.01	9.10	110	.07	.07	.00	99.	1.01	21.40	260	.02	.02	.00	31.
1.01	9.15	111	.07	.07	.00	99.	1.01	21.45	261	.02	.02	.00	31.
1.01	9.20	112	.07	.07	.00	99.	1.01	21.50	262	.02	.02	.00	31.
1.01	9.25	113	.07	.07	.00	100.	1.01	21.55	263	.02	.02	.00	31.
1.01	9.30	114	.07	.07	.00	100.	1.01	22.00	264	.02	.02	.00	31.
1.01	9.35	115	.07	.07	.00	100.	1.01	22.05	265	.02	.02	.00	31.
1.01	9.40	116	.07	.07	.00	100.	1.01	22.10	266	.02	.02	.00	31.
1.01	9.45	117	.07	.07	.00	100.	1.01	22.15	267	.02	.02	.00	31.
1.01	9.50	118	.07	.07	.00	100.	1.01	22.20	268	.02	.02	.00	31.
1.01	9.55	119	.07	.07	.00	100.	1.01	22.25	269	.02	.02	.00	31.
1.01	10.00	120	.07	.07	.00	100.	1.01	22.30	270	.02	.02	.00	31.
1.01	10.05	121	.07	.07	.00	100.	1.01	22.35	271	.02	.02	.00	31.
1.01	10.10	122	.07	.07	.00	100.	1.01	22.40	272	.02	.02	.00	31.
1.01	10.15	123	.07	.07	.00	100.	1.01	22.45	273	.02	.02	.00	31.
1.01	10.20	124	.07	.07	.00	101.	1.01	22.50	274	.02	.02	.00	31.
1.01	10.25	125	.07	.07	.00	101.	1.01	22.55	275	.02	.02	.00	31.
1.01	10.30	126	.07	.07	.00	101.	1.01	23.00	276	.02	.02	.00	31.
1.01	10.35	127	.07	.07	.00	101.	1.01	23.05	277	.02	.02	.00	31.
1.01	10.40	128	.07	.07	.00	101.	1.01	23.10	278	.02	.02	.00	31.

1.01	10.45	129	.07	.07	.00	101.	1.01	23.15	279	.02	.02	.00	31.
1.01	10.50	130	.07	.07	.00	101.	1.01	23.20	280	.02	.02	.00	31.
1.01	10.55	131	.07	.07	.00	101.	1.01	23.25	281	.02	.02	.00	31.
1.01	11.00	132	.07	.07	.00	101.	1.01	23.30	282	.02	.02	.00	31.
1.01	11.05	133	.07	.07	.00	101.	1.01	23.35	283	.02	.02	.00	31.
1.01	11.10	134	.07	.07	.00	101.	1.01	23.40	284	.02	.02	.00	31.
1.01	11.15	135	.07	.07	.00	101.	1.01	23.45	285	.02	.02	.00	31.
1.01	11.20	136	.07	.07	.00	101.	1.01	23.50	286	.02	.02	.00	31.
1.01	11.25	137	.07	.07	.00	101.	1.01	23.55	287	.02	.02	.00	31.
1.01	11.30	138	.07	.07	.00	101.	1.02	.00	288	.02	.02	.00	31.
1.01	11.35	139	.07	.07	.00	101.	1.02	.05	289	.00	.00	.00	29.
1.01	11.40	140	.07	.07	.00	101.	1.02	.10	290	.00	.00	.00	21.
1.01	11.45	141	.07	.07	.00	101.	1.02	.15	291	.00	.00	.00	13.
1.01	11.50	142	.07	.07	.00	101.	1.02	.20	292	.00	.00	.00	7.
1.01	11.55	143	.07	.07	.00	101.	1.02	.25	293	.00	.00	.00	4.
1.01	12.00	144	.07	.07	.00	101.	1.02	.30	294	.00	.00	.00	2.
1.01	12.05	145	.21	.20	.00	116.	1.02	.35	295	.00	.00	.00	1.
1.01	12.10	146	.21	.20	.00	164.	1.02	.40	296	.00	.00	.00	1.
1.01	12.15	147	.21	.20	.00	219.	1.02	.45	297	.00	.00	.00	0.
1.01	12.20	148	.21	.20	.00	259.	1.02	.50	298	.00	.00	.00	0.
1.01	12.25	149	.21	.20	.00	280.	1.02	.55	299	.00	.00	.00	0.
1.01	12.30	150	.21	.20	.00	291.	1.02	1.00	300	.00	.00	.00	0.
									SUM	32.24	31.35	.89	46848.
										(819.)(	796.)(	23.)(	1326.59)

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2148.	508.	163.	156.	46837.
CMS	61.	14.	5.	4.	1326.
INCHES		24.50	31.35	31.35	31.35
MM		622.20	796.39	796.39	796.39
AC-FT		252.	323.	323.	323.
THOUS CU M		311.	398.	398.	398.

HYDROGRAPH AT STAAREA 2 FOR PLAN 1, RTIO 1

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	21.	5.	2.	2.	468.
CMS	1.	0.	0.	0.	13.
INCHES		.24	.31	.31	.31
MM		6.22	7.96	7.96	7.96
AC-FT		3.	3.	3.	3.
THOUS CU M		3.	4.	4.	4.

HYDROGRAPH AT STAAREA 2 FOR PLAN 1, RTIO 2

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	43.	10.	3.	3.	937.
CMS	1.	0.	0.	0.	27.
INCHES		.49	.63	.63	.63
MM		12.44	15.93	15.93	15.93
AC-FT		5.	6.	6.	6.

THOUS CU M		6.	8.	8.	8.

HYDROGRAPH AT STAAREA 2 FOR PLAN 1, RTIO 3

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	64.	15.	5.	5.	1405.
CMS	2.	0.	0.	0.	40.
INCHES		.73	.94	.94	.94
MM		18.67	23.89	23.89	23.89
AC-FT		8.	10.	10.	10.
THOUS CU M		9.	12.	12.	12.

HYDROGRAPH AT STAAREA 2 FOR PLAN 1, RTIO 4

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	86.	20.	7.	6.	1873.
CMS	2.	1.	0.	0.	53.
INCHES		.98	1.25	1.25	1.25
MM		24.89	31.86	31.86	31.86
AC-FT		10.	13.	13.	13.
THOUS CU M		12.	16.	16.	16.

HYDROGRAPH AT STAAREA 2 FOR PLAN 1, RTIO 5

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	107.	25.	8.	8.	2342.
CMS	3.	1.	0.	0.	66.
INCHES		1.22	1.57	1.57	1.57
MM		31.11	39.82	39.82	39.82
AC-FT		13.	16.	16.	16.
THOUS CU M		16.	20.	20.	20.

HYDROGRAPH AT STAAREA 2 FOR PLAN 1, RTIO 6

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1074.	254.	81.	78.	23419.
CMS	30.	7.	2.	2.	663.
INCHES		12.25	15.68	15.68	15.68
MM		311.10	398.20	398.20	398.20
AC-FT		126.	161.	161.	161.
THOUS CU M		155.	199.	199.	199.

HYDROGRAPH AT STAAREA 2 FOR PLAN 1, RTIO 7

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2148.	508.	163.	156.	46837.

CMS	61.	14.	5.	4.	1326.
INCHES		24.50	31.35	31.35	31.35
MM		622.20	796.39	796.39	796.39
AC-FT		252.	323.	323.	323.
THOUS CU M		311.	398.	398.	398.

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HYDROGRAPH ROUTING

ROUTE HYDROGRAPH THROUGH U/S HAGAN LAKE DAM

ISTAG	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
DAM 2	1	0	0	0	0	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
.0	.000	.00	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	.000	.000	.000	-799.	-1

STAGE	799.50	800.60	800.90	804.69	804.97	805.10	805.24	805.53	805.81	806.38
	807.23	808.13	809.03							
FLOW	.00	2.50	12.40	27.80	70.00	99.00	189.00	465.00	806.00	1678.00
	3317.00	5458.00	7929.00							
SURFACE AREA=	0.	1.	3.	5.	8.	12.				
CAPACITY=	0.	2.	11.	32.	67.	118.				
ELEVATION=	785.	790.	795.	800.	805.	810.				

CREL	SPWID	COQW	EXPW	ELEVL	COQL	CAREA	EXPL
799.5	.0	.0	.0	.0	.0	.0	.0

DAM DATA

TOPEL	COQD	EXPD	DAMWID
805.0	.0	.0	0.

DAM BREACH DATA

BRWID	Z	ELBM	TFAIL	WSEL	FAILEL
10.	.50	794.70	1.00	799.50	805.00

STATION DAM 2, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

34.	34.	34.	34.	34.	34.	34.	34.	34.	34.
34.	34.	34.	34.	34.	34.	34.	34.	34.	34.
34.	34.	34.	34.	34.	34.	34.	34.	34.	34.
34.	34.	34.	34.	34.	34.	34.	34.	34.	34.

STAGE

799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.8	799.8	799.8
799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.9
799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	800.0
800.0	800.0	800.0	800.0	800.0	800.0	800.0	800.1	800.1	800.2
800.2	800.2	800.3	800.3	800.3	800.3	800.3	800.3	800.3	800.3
800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4
800.4	800.4	800.4	800.4	800.4	800.4	800.5	800.5	800.5	800.5
800.5	800.5	800.5	800.5	800.5	800.5	800.4	800.4	800.4	800.4
800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4
800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4
800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4
800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4
800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4	800.4
800.4	800.4	800.4	800.4	800.4	800.4	800.3	800.3	800.3	800.3
800.3	800.3	800.3	800.3	800.3	800.3	800.3	800.3	800.3	800.3

PEAK OUTFLOW IS 2. AT TIME 18.33 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2.	2.	1.	1.	273.
CMS	0.	0.	0.	0.	8.
INCHES		.10	.18	.18	.18
MM		2.55	4.64	4.64	4.64
AC-FT		1.	2.	2.	2.
THOUS CU M		1.	2.	2.	2.

STATION DAM 2, PLAN 1, RATIO 3

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	3.	4.	4.	5.	5.	6.	6.	6.	7.
7.	7.	7.	7.	8.	8.	8.	8.	8.	8.
8.	8.	8.	9.	9.	9.	9.	9.	9.	8.
8.	8.	8.	7.	7.	7.	7.	7.	6.	6.
6.	6.	6.	5.	5.	5.	5.	5.	5.	4.
4.	4.	4.	4.	4.	4.	4.	4.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.

STORAGE

29.	29.	29.	29.	29.	29.	29.	29.	29.	29.
29.	29.	29.	29.	29.	29.	29.	29.	29.	29.
29.	29.	29.	29.	29.	29.	29.	29.	29.	29.
29.	29.	29.	29.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	31.	31.	31.	31.	31.
31.	31.	31.	31.	31.	31.	31.	31.	31.	31.
31.	31.	31.	31.	31.	31.	31.	31.	32.	32.
32.	32.	32.	32.	32.	32.	32.	32.	32.	32.
32.	32.	33.	33.	33.	33.	33.	33.	33.	33.
33.	33.	33.	33.	34.	34.	34.	34.	35.	35.
35.	36.	36.	36.	36.	36.	36.	36.	36.	36.
36.	36.	36.	36.	36.	37.	37.	37.	37.	37.
37.	37.	37.	37.	37.	37.	37.	37.	37.	37.
37.	37.	36.	36.	36.	36.	36.	36.	36.	36.
36.	36.	36.	36.	36.	36.	36.	36.	36.	36.
36.	36.	36.	36.	36.	36.	36.	36.	36.	36.

[illegible]	[illegible]	36.	36.	36.	36.	36.	36.	36.	36.
[illegible]	36.	36.	36.	36.	35.	35.	35.	35.	35.
[illegible]	35.	35.	35.	35.	35.	35.	35.	35.	35.
[illegible]	35.	35.	35.	35.	35.	35.	35.	35.	35.
[illegible]	35.	35.	35.	35.	35.	35.	35.	35.	35.

STAGE

[illegible]	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
[illegible]	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
[illegible]	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
[illegible]	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
[illegible]	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
[illegible]	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
[illegible]	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.7	799.8	799.8	799.8	799.8	799.8	799.8	799.8
799.8	799.8	799.8	799.8	799.8	799.9	799.9	799.9	799.9	799.9
799.9	799.9	799.9	799.9	800.0	800.0	800.0	800.0	800.0	800.0
800.0	800.0	800.1	800.1	800.1	800.1	800.1	800.1	800.2	800.2
800.2	800.2	800.2	800.2	800.2	800.3	800.3	800.4	800.4	800.5
800.6	800.6	800.6	800.7	800.7	800.7	800.7	800.7	800.7	800.7
800.7	800.7	800.7	800.8	800.8	800.8	800.8	800.8	800.8	800.8
800.8	800.8	800.8	800.8	800.8	800.8	800.8	800.8	800.8	800.8
800.8	800.8	800.8	800.8	800.7	800.7	800.7	800.7	800.7	800.7
800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7
800.7	800.7	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6
800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6
800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6
800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6
800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6	800.6
800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5

PEAK OUTFLOW IS 9. AT TIME 18.08 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	9.	6.	2.	2.	574.
CMS	0.	0.	0.	0.	16.
INCHES		.27	.38	.38	.38
MM		6.90	9.76	9.76	9.76
AC-FT		3.	4.	4.	4.
THOUS CU M		3.	5.	5.	5.

STATION DAM 2, PLAN 1, RATIO 4

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:32:58 CASE PMF

40.	40.	39.	39.	39.	39.	39.	39.	39.	39.
39.	39.	39.	39.	39.	39.	38.	38.	38.	38.
38.	38.	38.	38.	38.	38.	38.	38.	37.	37.
37.	37.	37.	37.	37.	37.	37.	37.	37.	37.
37.	37.	37.	37.	37.	36.	36.	36.	36.	36.
36.	36.	36.	36.	36.	36.	36.	36.	36.	36.
36.	36.	36.	36.	36.	36.	36.	36.	36.	36.

STAGE

799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8
799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8
799.8	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9	799.9
799.9	799.9	799.9	799.9	799.9	799.9	799.9	800.0	800.0	800.0
800.0	800.0	800.0	800.1	800.1	800.1	800.1	800.1	800.1	800.2
800.2	800.2	800.2	800.2	800.3	800.3	800.3	800.3	800.3	800.4
800.4	800.4	800.4	800.5	800.5	800.5	800.5	800.6	800.6	800.6
800.6	800.6	800.7	800.7	800.7	800.7	800.8	800.9	801.0	801.1
801.2	801.2	801.3	801.3	801.3	801.3	801.3	801.3	801.3	801.4
801.4	801.4	801.4	801.4	801.4	801.4	801.4	801.4	801.4	801.4
801.4	801.4	801.4	801.4	801.4	801.4	801.4	801.4	801.4	801.4
801.4	801.4	801.4	801.4	801.4	801.3	801.3	801.3	801.3	801.3
801.3	801.3	801.3	801.2	801.2	801.2	801.2	801.2	801.2	801.2
801.1	801.1	801.1	801.1	801.1	801.1	801.1	801.1	801.0	801.0
801.0	801.0	801.0	801.0	801.0	801.0	800.9	800.9	800.9	800.9
800.9	800.9	800.9	800.9	800.8	800.8	800.8	800.8	800.8	800.8
800.8	800.8	800.8	800.8	800.8	800.8	800.7	800.7	800.7	800.7
800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7
800.7	800.7	800.7	800.7	800.7	800.6	800.6	800.6	800.6	800.6

PEAK OUTFLOW IS 15. AT TIME 18.0 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	15.	14.	5.	5.	1425.
CMS	0.	0.	0.	0.	40.
INCHES		.66	.95	.95	.95
MM		16.88	24.22	24.22	24.22
AC-FT		7.	10.	10.	10.
THOUS CU M		8.	12.	12.	12.

STATION DAM 2, PLAN 1, RATIO 6

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.	2.	2.	3.	5.
6.	8.	9.	11.	12.	13.	13.	13.	13.	13.
13.	14.	14.	14.	14.	14.	14.	14.	15.	15.
15.	15.	15.	15.	16.	16.	16.	16.	16.	16.
16.	17.	17.	17.	17.	17.	17.	17.	18.	18.
18.	18.	18.	18.	18.	18.	19.	19.	19.	19.
19.	19.	19.	20.	20.	20.	20.	21.	21.	21.
22.	22.	23.	23.	24.	24.	25.	25.	26.	26.
27.	27.	29.	47.	63.	80.	100.	144.	186.	228.
274.	342.	423.	513.	635.	758.	871.	968.	835.	727.
639.	560.	500.	455.	426.	416.	440.	510.	609.	677.
699.	685.	650.	603.	545.	499.	456.	419.	387.	360.
337.	318.	302.	289.	277.	267.	256.	245.	235.	226.
218.	211.	205.	200.	195.	192.	188.	181.	169.	155.
139.	124.	111.	99.	89.	80.	72.	66.	60.	55.
50.	47.	43.	40.	38.	36.	34.	32.	30.	29.
28.	26.	25.	25.	24.	23.	22.	22.	21.	21.
20.	20.	20.	19.	19.	19.	18.	18.	18.	18.
18.	17.	17.	17.	17.	17.	17.	17.	17.	16.
16.	16.	16.	16.	16.	16.	16.	16.	16.	16.
16.	16.	16.	16.	16.	16.	16.	16.	16.	15.
15.	14.	13.	12.	12.	11.	10.	9.	9.	8.

STORAGE

29.	29.	29.	29.	29.	29.	29.	29.	29.	29.
29.	29.	29.	29.	29.	29.	29.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	31.	31.	31.	31.	31.	31.	31.	31.	31.
31.	31.	31.	31.	31.	31.	31.	31.	31.	31.
31.	31.	31.	32.	32.	32.	32.	32.	33.	33.
33.	34.	34.	34.	34.	35.	35.	35.	36.	36.
36.	37.	37.	37.	37.	38.	38.	38.	38.	39.
39.	39.	39.	39.	40.	40.	40.	40.	41.	41.
41.	41.	42.	42.	42.	42.	43.	43.	43.	43.
44.	44.	44.	44.	44.	45.	45.	45.	45.	46.
46.	46.	46.	46.	47.	47.	47.	47.	48.	48.
48.	48.	48.	49.	49.	49.	50.	50.	51.	52.
53.	54.	55.	56.	57.	57.	58.	59.	60.	61.
62.	63.	64.	65.	66.	67.	68.	68.	68.	68.
68.	67.	66.	64.	62.	59.	55.	50.	45.	42.
39.	36.	34.	32.	31.	31.	32.	34.	38.	40.
41.	40.	39.	37.	35.	34.	32.	31.	30.	28.

28.	27.	26.	26.	25.	25.	24.	24.	23.	23.
23.	22.	22.	22.	22.	22.	21.	21.	21.	20.
19.	18.	18.	17.	17.	16.	16.	15.	15.	15.
15.	14.	14.	14.	14.	14.	14.	13.	13.	13.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
13.	13.	13.	13.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.

STAGE

799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.6	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.7	799.8	799.8
799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.8
799.9	799.9	799.9	799.9	799.9	800.0	800.0	800.0	800.1	800.1
800.2	800.2	800.3	800.4	800.4	800.5	800.5	800.6	800.6	800.7
800.7	800.8	800.8	800.9	800.9	800.9	801.0	801.0	801.1	801.1
801.1	801.2	801.2	801.3	801.3	801.3	801.4	801.4	801.4	801.5
801.5	801.6	801.6	801.6	801.7	801.7	801.7	801.8	801.8	801.9
801.9	801.9	802.0	802.0	802.0	802.1	802.1	802.1	802.2	802.2
802.2	802.3	802.3	802.3	802.4	802.4	802.4	802.5	802.5	802.5
802.6	802.6	802.6	802.6	802.7	802.7	802.8	802.9	803.0	803.1
803.2	803.4	803.5	803.6	803.7	803.8	803.9	804.1	804.2	804.3
804.4	804.6	804.7	804.8	804.9	805.0	805.1	805.1	805.2	805.1
805.1	805.0	804.9	804.7	804.4	804.0	803.5	802.8	802.2	801.6
801.1	800.7	800.3	800.0	799.8	799.7	799.9	800.4	800.9	801.3
801.5	801.4	801.2	800.9	800.6	800.3	800.0	799.7	799.5	799.3
799.1	799.0	798.8	798.7	798.6	798.5	798.4	798.3	798.2	798.2
798.1	798.0	798.0	797.9	797.9	797.8	797.8	797.7	797.6	797.4
797.3	797.1	796.9	796.8	796.6	796.5	796.4	796.3	796.2	796.1
796.0	796.0	795.9	795.9	795.8	795.8	795.7	795.7	795.7	795.6
795.6	795.6	795.6	795.5	795.5	795.5	795.5	795.5	795.5	795.5
795.4	795.4	795.4	795.4	795.4	795.4	795.4	795.4	795.4	795.4
795.4	795.4	795.4	795.4	795.4	795.4	795.4	795.4	795.3	795.3
795.3	795.3	795.3	795.3	795.3	795.3	795.3	795.3	795.3	795.3
795.3	795.3	795.3	795.3	795.3	795.3	795.3	795.3	795.3	795.3
795.3	795.3	795.3	795.2	795.2	795.2	795.2	795.1	795.1	795.1

PEAK OUTFLOW IS 968. AT TIME 14.83 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	968.	326.	90.	87.	26032.
CMS	27.	9.	3.	2.	737.
INCHES		15.74	17.43	17.43	17.43
MM		399.67	442.63	442.63	442.63
AC-FT		162.	179.	179.	179.
THOUS CU M		200.	221.	221.	221.

STATION DAM 2, PLAN 1, RATIO 7

BEGIN DAM FAILURE AT 11.75 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	6.	7.
10.	13.	13.	13.	14.	14.	14.	15.	15.	15.
16.	16.	16.	17.	17.	17.	18.	18.	18.	19.
19.	19.	20.	20.	20.	21.	21.	21.	21.	22.
22.	22.	23.	23.	23.	23.	24.	24.	24.	25.
25.	25.	25.	26.	26.	26.	26.	27.	27.	27.
27.	28.	33.	41.	48.	54.	59.	64.	68.	73.
78.	85.	100.	127.	166.	224.	302.	396.	502.	634.
766.	891.	1000.	874.	772.	689.	622.	564.	522.	493.
470.	452.	437.	426.	416.	408.	402.	396.	392.	391.
394.	400.	408.	415.	422.	428.	434.	438.	442.	445.
447.	445.	444.	449.	468.	512.	625.	817.	1047.	1219.
1291.	1282.	1223.	1139.	1046.	955.	871.	798.	736.	684.
640.	604.	569.	543.	523.	505.	485.	466.	448.	431.
417.	404.	394.	385.	378.	372.	365.	351.	328.	297.
264.	233.	206.	181.	161.	143.	128.	115.	104.	95.
87.	80.	74.	69.	64.	60.	57.	54.	52.	49.
47.	46.	44.	43.	41.	40.	39.	39.	38.	37.
37.	36.	35.	35.	35.	34.	34.	34.	33.	33.
33.	33.	33.	32.	32.	32.	32.	32.	32.	32.
32.	32.	31.	31.	31.	31.	31.	31.	31.	31.
31.	31.	31.	31.	31.	31.	31.	31.	31.	30.
29.	27.	25.	23.	21.	20.	18.	17.	15.	14.

STORAGE

29.	29.	29.	29.	29.	29.	29.	29.	29.	29.
29.	29.	29.	29.	29.	29.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	30.	30.
30.	30.	30.	30.	30.	30.	30.	30.	31.	31.
31.	31.	31.	31.	31.	31.	31.	31.	31.	31.
31.	32.	32.	32.	32.	32.	32.	32.	32.	32.
32.	32.	33.	33.	33.	33.	33.	33.	33.	33.
33.	33.	33.	34.	34.	34.	35.	35.	36.	36.
37.	38.	38.	39.	39.	40.	40.	41.	41.	42.
42.	43.	43.	44.	45.	45.	46.	46.	47.	47.
48.	48.	49.	49.	50.	50.	51.	52.	52.	53.
53.	54.	54.	55.	55.	56.	56.	57.	57.	58.
58.	59.	59.	60.	61.	61.	62.	62.	63.	63.
64.	64.	65.	65.	65.	66.	66.	66.	67.	67.
67.	67.	67.	67.	67.	66.	66.	65.	64.	62.

59.	56.	51.	47.	43.	40.	38.	36.	35.	34.
33.	32.	31.	31.	31.	30.	30.	30.	30.	30.
30.	30.	30.	31.	31.	31.	31.	31.	32.	32.
32.	32.	32.	32.	33.	34.	38.	45.	53.	59.
61.	61.	59.	56.	53.	50.	47.	44.	42.	40.
39.	37.	36.	35.	35.	34.	33.	33.	32.	31.
31.	30.	30.	29.	29.	29.	29.	28.	27.	26.
25.	23.	22.	21.	20.	19.	19.	18.	17.	17.
17.	16.	16.	16.	15.	15.	15.	15.	15.	15.
14.	14.	14.	14.	14.	14.	14.	14.	14.	14.
14.	14.	14.	14.	14.	14.	14.	14.	14.	14.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
13.	13.	13.	13.	13.	13.	12.	12.	12.	12.

STAGE

799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5	799.5
799.5	799.5	799.5	799.5	799.5	799.6	799.6	799.6	799.6	799.6
799.6	799.6	799.6	799.6	799.7	799.7	799.7	799.7	799.7	799.7
799.7	799.7	799.8	799.8	799.8	799.8	799.8	799.8	799.8	799.9
799.9	799.9	799.9	799.9	799.9	800.0	800.0	800.0	800.0	800.0
800.0	800.0	800.1	800.1	800.1	800.1	800.1	800.1	800.2	800.2
800.2	800.2	800.2	800.3	800.3	800.4	800.5	800.6	800.7	800.8
800.8	800.9	801.0	801.1	801.2	801.3	801.4	801.5	801.5	801.6
801.7	801.8	801.9	802.0	802.0	802.1	802.2	802.3	802.4	802.4
802.5	802.6	802.7	802.8	802.8	802.9	803.0	803.1	803.1	803.2
803.3	803.3	803.4	803.5	803.6	803.6	803.7	803.8	803.8	803.9
804.0	804.0	804.1	804.2	804.2	804.3	804.4	804.4	804.5	804.5
804.6	804.7	804.7	804.8	804.8	804.9	804.9	804.9	805.0	805.0
805.0	805.0	805.0	805.0	805.0	804.9	804.9	804.8	804.7	804.6
804.1	803.6	803.0	802.4	801.9	801.4	801.0	800.7	800.4	800.2
800.1	800.0	799.9	799.8	799.7	799.7	799.6	799.6	799.5	799.5
799.6	799.6	799.7	799.7	799.8	799.8	799.8	799.9	799.9	799.9
799.9	799.9	799.9	800.0	800.1	800.4	801.0	802.1	803.2	804.0
804.3	804.3	804.0	803.6	803.2	802.8	802.4	802.0	801.7	801.4
801.1	800.9	800.7	800.6	800.4	800.3	800.2	800.1	799.9	799.8
799.7	799.6	799.6	799.5	799.4	799.4	799.3	799.2	799.1	798.8
798.5	798.2	798.0	797.7	797.5	797.3	797.1	797.0	796.8	796.7
796.6	796.5	796.4	796.3	796.3	796.2	796.2	796.1	796.1	796.0
796.0	796.0	795.9	795.9	795.9	795.9	795.8	795.8	795.8	795.8
795.8	795.8	795.8	795.8	795.8	795.7	795.7	795.7	795.7	795.7
795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7
795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7
795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7	795.7
795.6	795.6	795.6	795.5	795.5	795.4	795.4	795.3	795.3	795.3

EAK OUTFLOW IS 1291. AT TIME 15.92 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1291.	587.	171.	165.	49369.
CMS	37.	17.	5.	5.	1398.
INCHES		28.27	33.05	33.05	33.05
MM		718.10	839.44	839.44	839.44

SUB-AREA RUNOFF COMPUTATION

RUNOFF CALCULATIONS FOR HAGAN LAKE (MO 11057)

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
	AREA 3	0	0	0	0	3	1	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	2	.05	.00	.05	1.00	.000	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
.00	24.80	100.00	120.00	130.00	.00	.00	.00

LOSS DATA

LROPT	STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0	.00	.00	1.00	.00	.00	1.00	-1.00	-93.00	.00	.00

CURVE NO = -93.00 WETNESS = -1.00 EFFECT CN = 93.00

UNIT HYDROGRAPH DATA
TC= .00 LAG= .03

RECESSION DATA
STRTQ= .00 QRCSN= .00 RTIOR= 1.00

TIME INCREMENT TOO LARGE--(NHQ IS GT LAG/2)

UNIT HYDROGRAPH 5 END OF PERIOD ORDINATES, TC= .00 HOURS, LAG= .03 VOL= 1.00
293. 82. 16. 3. 0.

0 END-OF-PERIOD FLOW

MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q	MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q
1.01	.05	1	.01	.00	.01	0.	1.01	12.35	151	.21	.20	.00	81.
1.01	.10	2	.01	.00	.01	0.	1.01	12.40	152	.21	.20	.00	81.
1.01	.15	3	.01	.00	.01	0.	1.01	12.45	153	.21	.20	.00	81.
1.01	.20	4	.01	.00	.01	0.	1.01	12.50	154	.21	.21	.00	81.
1.01	.25	5	.01	.00	.01	0.	1.01	12.55	155	.21	.21	.00	81.
1.01	.30	6	.01	.00	.01	0.	1.01	13.00	156	.21	.21	.00	81.
1.01	.35	7	.01	.00	.01	0.	1.01	13.05	157	.25	.25	.00	93.
1.01	.40	8	.01	.00	.01	0.	1.01	13.10	158	.25	.25	.00	96.
1.01	.45	9	.01	.00	.01	0.	1.01	13.15	159	.25	.25	.00	97.
1.01	.50	10	.01	.00	.01	0.	1.01	13.20	160	.25	.25	.00	97.
1.01	.55	11	.01	.00	.01	0.	1.01	13.25	161	.25	.25	.00	97.
1.01	1.00	12	.01	.00	.01	0.	1.01	13.30	162	.25	.25	.00	97.
1.01	1.05	13	.01	.00	.01	0.	1.01	13.35	163	.25	.25	.00	97.
1.01	1.10	14	.01	.00	.01	0.	1.01	13.40	164	.25	.25	.00	97.
1.01	1.15	15	.01	.00	.01	1.	1.01	13.45	165	.25	.25	.00	97.

1.01	1.20	16	.01	.00	.01	1.	1.01	13.50	166	.25	.25	.00	97.
1.01	1.25	17	.01	.00	.01	1.	1.01	13.55	167	.25	.25	.00	97.
1.01	1.30	18	.01	.00	.01	1.	1.01	14.00	168	.25	.25	.00	97.
1.01	1.35	19	.01	.00	.01	1.	1.01	14.05	169	.31	.31	.00	116.
1.01	1.40	20	.01	.00	.01	1.	1.01	14.10	170	.31	.31	.00	121.
1.01	1.45	21	.01	.00	.01	1.	1.01	14.15	171	.31	.31	.00	122.
1.01	1.50	22	.01	.00	.01	2.	1.01	14.20	172	.31	.31	.00	122.
1.01	1.55	23	.01	.00	.01	2.	1.01	14.25	173	.31	.31	.00	122.
1.01	2.00	24	.01	.00	.01	2.	1.01	14.30	174	.31	.31	.00	122.
1.01	2.05	25	.01	.00	.01	2.	1.01	14.35	175	.31	.31	.00	122.
1.01	2.10	26	.01	.01	.01	2.	1.01	14.40	176	.31	.31	.00	122.
1.01	2.15	27	.01	.01	.01	2.	1.01	14.45	177	.31	.31	.00	122.
1.01	2.20	28	.01	.01	.01	2.	1.01	14.50	178	.31	.31	.00	122.
1.01	2.25	29	.01	.01	.01	2.	1.01	14.55	179	.31	.31	.00	122.
1.01	2.30	30	.01	.01	.01	2.	1.01	15.00	180	.31	.31	.00	122.
1.01	2.35	31	.01	.01	.01	2.	1.01	15.05	181	.19	.19	.00	87.
1.01	2.40	32	.01	.01	.01	3.	1.01	15.10	182	.38	.38	.00	132.
1.01	2.45	33	.01	.01	.01	3.	1.01	15.15	183	.38	.38	.00	145.
1.01	2.50	34	.01	.01	.01	3.	1.01	15.20	184	.57	.56	.00	203.
1.01	2.55	35	.01	.01	.01	3.	1.01	15.25	185	.66	.66	.00	247.
1.01	3.00	36	.01	.01	.01	3.	1.01	15.30	186	1.60	1.60	.00	533.
1.01	3.05	37	.01	.01	.01	3.	1.01	15.35	187	2.64	2.64	.00	917.
1.01	3.10	38	.01	.01	.01	3.	1.01	15.40	188	1.04	1.04	.00	548.
1.01	3.15	39	.01	.01	.01	3.	1.01	15.45	189	.66	.66	.00	326.
1.01	3.20	40	.01	.01	.01	3.	1.01	15.50	190	.57	.56	.00	245.
1.01	3.25	41	.01	.01	.01	3.	1.01	15.55	191	.38	.38	.00	171.
1.01	3.30	42	.01	.01	.01	3.	1.01	16.00	192	.38	.38	.00	153.
1.01	3.35	43	.01	.01	.01	3.	1.01	16.05	193	.29	.29	.00	124.
1.01	3.40	44	.01	.01	.01	3.	1.01	16.10	194	.29	.29	.00	116.
1.01	3.45	45	.01	.01	.01	3.	1.01	16.15	195	.29	.29	.00	114.
1.01	3.50	46	.01	.01	.01	3.	1.01	16.20	196	.29	.29	.00	114.
1.01	3.55	47	.01	.01	.01	3.	1.01	16.25	197	.29	.29	.00	114.
1.01	4.00	48	.01	.01	.00	3.	1.01	16.30	198	.29	.29	.00	114.
1.01	4.05	49	.01	.01	.00	4.	1.01	16.35	199	.29	.29	.00	114.
1.01	4.10	50	.01	.01	.00	4.	1.01	16.40	200	.29	.29	.00	114.
1.01	4.15	51	.01	.01	.00	4.	1.01	16.45	201	.29	.29	.00	114.
1.01	4.20	52	.01	.01	.00	4.	1.01	16.50	202	.29	.29	.00	114.
1.01	4.25	53	.01	.01	.00	4.	1.01	16.55	203	.29	.29	.00	114.
1.01	4.30	54	.01	.01	.00	4.	1.01	17.00	204	.29	.29	.00	114.
1.01	4.35	55	.01	.01	.00	4.	1.01	17.05	205	.23	.23	.00	96.
1.01	4.40	56	.01	.01	.00	4.	1.01	17.10	206	.23	.23	.00	91.
1.01	4.45	57	.01	.01	.00	4.	1.01	17.15	207	.23	.23	.00	90.
1.01	4.50	58	.01	.01	.00	4.	1.01	17.20	208	.23	.23	.00	90.
1.01	4.55	59	.01	.01	.00	4.	1.01	17.25	209	.23	.23	.00	90.
1.01	5.00	60	.01	.01	.00	4.	1.01	17.30	210	.23	.23	.00	90.
1.01	5.05	61	.01	.01	.00	4.	1.01	17.35	211	.23	.23	.00	90.
1.01	5.10	62	.01	.01	.00	4.	1.01	17.40	212	.23	.23	.00	90.
1.01	5.15	63	.01	.01	.00	4.	1.01	17.45	213	.23	.23	.00	90.
1.01	5.20	64	.01	.01	.00	4.	1.01	17.50	214	.23	.23	.00	90.
1.01	5.25	65	.01	.01	.00	4.	1.01	17.55	215	.23	.23	.00	90.
1.01	5.30	66	.01	.01	.00	4.	1.01	18.00	216	.23	.23	.00	90.
1.01	5.35	67	.01	.01	.00	4.	1.01	18.05	217	.02	.02	.00	29.
1.01	5.40	68	.01	.01	.00	4.	1.01	18.10	218	.02	.02	.00	12.
1.01	5.45	69	.01	.01	.00	4.	1.01	18.15	219	.02	.02	.00	9.
1.01	5.50	70	.01	.01	.00	4.	1.01	18.20	220	.02	.02	.00	8.
1.01	5.55	71	.01	.01	.00	4.	1.01	18.25	221	.02	.02	.00	8.

1.01	6.00	72	.01	.01	.00	4.	1.01	18.30	222	.02	.02	.00	8.
1.01	6.05	73	.07	.05	.01	17.	1.01	18.35	223	.02	.02	.00	8.
1.01	6.10	74	.07	.06	.01	21.	1.01	18.40	224	.02	.02	.00	8.
1.01	6.15	75	.07	.06	.01	22.	1.01	18.45	225	.02	.02	.00	8.
1.01	6.20	76	.07	.06	.01	23.	1.01	18.50	226	.02	.02	.00	8.
1.01	6.25	77	.07	.06	.01	23.	1.01	18.55	227	.02	.02	.00	8.
1.01	6.30	78	.07	.06	.01	23.	1.01	19.00	228	.02	.02	.00	8.
1.01	6.35	79	.07	.06	.01	23.	1.01	19.05	229	.02	.02	.00	8.
1.01	6.40	80	.07	.06	.01	24.	1.01	19.10	230	.02	.02	.00	8.
1.01	6.45	81	.07	.06	.01	24.	1.01	19.15	231	.02	.02	.00	8.
1.01	6.50	82	.07	.06	.01	24.	1.01	19.20	232	.02	.02	.00	8.
1.01	6.55	83	.07	.06	.01	24.	1.01	19.25	233	.02	.02	.00	8.
1.01	7.00	84	.07	.06	.01	24.	1.01	19.30	234	.02	.02	.00	8.
1.01	7.05	85	.07	.06	.01	25.	1.01	19.35	235	.02	.02	.00	8.
1.01	7.10	86	.07	.06	.01	25.	1.01	19.40	236	.02	.02	.00	8.
1.01	7.15	87	.07	.06	.01	25.	1.01	19.45	237	.02	.02	.00	8.
1.01	7.20	88	.07	.06	.01	25.	1.01	19.50	238	.02	.02	.00	8.
1.01	7.25	89	.07	.06	.01	25.	1.01	19.55	239	.02	.02	.00	8.
1.01	7.30	90	.07	.06	.00	25.	1.01	20.00	240	.02	.02	.00	8.
1.01	7.35	91	.07	.06	.00	25.	1.01	20.05	241	.02	.02	.00	8.
1.01	7.40	92	.07	.06	.00	25.	1.01	20.10	242	.02	.02	.00	8.
1.01	7.45	93	.07	.06	.00	25.	1.01	20.15	243	.02	.02	.00	8.
1.01	7.50	94	.07	.06	.00	26.	1.01	20.20	244	.02	.02	.00	8.
1.01	7.55	95	.07	.06	.00	26.	1.01	20.25	245	.02	.02	.00	8.
1.01	8.00	96	.07	.07	.00	26.	1.01	20.30	246	.02	.02	.00	8.
1.01	8.05	97	.07	.07	.00	26.	1.01	20.35	247	.02	.02	.00	8.
1.01	8.10	98	.07	.07	.00	26.	1.01	20.40	248	.02	.02	.00	8.
1.01	8.15	99	.07	.07	.00	26.	1.01	20.45	249	.02	.02	.00	8.
1.01	8.20	100	.07	.07	.00	26.	1.01	20.50	250	.02	.02	.00	8.
1.01	8.25	101	.07	.07	.00	26.	1.01	20.55	251	.02	.02	.00	8.
1.01	8.30	102	.07	.07	.00	26.	1.01	21.00	252	.02	.02	.00	8.
1.01	8.35	103	.07	.07	.00	26.	1.01	21.05	253	.02	.02	.00	8.
1.01	8.40	104	.07	.07	.00	26.	1.01	21.10	254	.02	.02	.00	8.
1.01	8.45	105	.07	.07	.00	26.	1.01	21.15	255	.02	.02	.00	8.
1.01	8.50	106	.07	.07	.00	26.	1.01	21.20	256	.02	.02	.00	8.
1.01	8.55	107	.07	.07	.00	26.	1.01	21.25	257	.02	.02	.00	8.
1.01	9.00	108	.07	.07	.00	26.	1.01	21.30	258	.02	.02	.00	8.
1.01	9.05	109	.07	.07	.00	26.	1.01	21.35	259	.02	.02	.00	8.
1.01	9.10	110	.07	.07	.00	26.	1.01	21.40	260	.02	.02	.00	8.
1.01	9.15	111	.07	.07	.00	26.	1.01	21.45	261	.02	.02	.00	8.
1.01	9.20	112	.07	.07	.00	26.	1.01	21.50	262	.02	.02	.00	8.
1.01	9.25	113	.07	.07	.00	26.	1.01	21.55	263	.02	.02	.00	8.
1.01	9.30	114	.07	.07	.00	26.	1.01	22.00	264	.02	.02	.00	8.
1.01	9.35	115	.07	.07	.00	26.	1.01	22.05	265	.02	.02	.00	8.
1.01	9.40	116	.07	.07	.00	26.	1.01	22.10	266	.02	.02	.00	8.
1.01	9.45	117	.07	.07	.00	26.	1.01	22.15	267	.02	.02	.00	8.
1.01	9.50	118	.07	.07	.00	26.	1.01	22.20	268	.02	.02	.00	8.
1.01	9.55	119	.07	.07	.00	27.	1.01	22.25	269	.02	.02	.00	8.
1.01	10.00	120	.07	.07	.00	27.	1.01	22.30	270	.02	.02	.00	8.
1.01	10.05	121	.07	.07	.00	27.	1.01	22.35	271	.02	.02	.00	8.
1.01	10.10	122	.07	.07	.00	27.	1.01	22.40	272	.02	.02	.00	8.
1.01	10.15	123	.07	.07	.00	27.	1.01	22.45	273	.02	.02	.00	8.
1.01	10.20	124	.07	.07	.00	27.	1.01	22.50	274	.02	.02	.00	8.
1.01	10.25	125	.07	.07	.00	27.	1.01	22.55	275	.02	.02	.00	8.
1.01	10.30	126	.07	.07	.00	27.	1.01	23.00	276	.02	.02	.00	8.
1.01	10.35	127	.07	.07	.00	27.	1.01	23.05	277	.02	.02	.00	8.

1.01	10.40	128	.07	.07	.00	27.	1.01	23.10	278	.02	.02	.00	8.
1.01	10.45	129	.07	.07	.00	27.	1.01	23.15	279	.02	.02	.00	8.
1.01	10.50	130	.07	.07	.00	27.	1.01	23.20	280	.02	.02	.00	8.
1.01	10.55	131	.07	.07	.00	27.	1.01	23.25	281	.02	.02	.00	8.
1.01	11.00	132	.07	.07	.00	27.	1.01	23.30	282	.02	.02	.00	8.
1.01	11.05	133	.07	.07	.00	27.	1.01	23.35	283	.02	.02	.00	8.
1.01	11.10	134	.07	.07	.00	27.	1.01	23.40	284	.02	.02	.00	8.
1.01	11.15	135	.07	.07	.00	27.	1.01	23.45	285	.02	.02	.00	8.
1.01	11.20	136	.07	.07	.00	27.	1.01	23.50	286	.02	.02	.00	8.
1.01	11.25	137	.07	.07	.00	27.	1.01	23.55	287	.02	.02	.00	8.
1.01	11.30	138	.07	.07	.00	27.	1.02	.00	288	.02	.02	.00	8.
1.01	11.35	139	.07	.07	.00	27.	1.02	.05	289	.00	.00	.00	2.
1.01	11.40	140	.07	.07	.00	27.	1.02	.10	290	.00	.00	.00	0.
1.01	11.45	141	.07	.07	.00	27.	1.02	.15	291	.00	.00	.00	0.
1.01	11.50	142	.07	.07	.00	27.	1.02	.20	292	.00	.00	.00	0.
1.01	11.55	143	.07	.07	.00	27.	1.02	.25	293	.00	.00	.00	0.
1.01	12.00	144	.07	.07	.00	27.	1.02	.30	294	.00	.00	.00	0.
1.01	12.05	145	.21	.20	.00	67.	1.02	.35	295	.00	.00	.00	0.
1.01	12.10	146	.21	.20	.00	78.	1.02	.40	296	.00	.00	.00	0.
1.01	12.15	147	.21	.20	.00	80.	1.02	.45	297	.00	.00	.00	0.
1.01	12.20	148	.21	.20	.00	81.	1.02	.50	298	.00	.00	.00	0.
1.01	12.25	149	.21	.20	.00	81.	1.02	.55	299	.00	.00	.00	0.
1.01	12.30	150	.21	.20	.00	81.	1.02	1.00	300	.00	.00	.00	0.
									SUM	32.24	31.35	.89	12371.
										(819.)	(796.)	(23.)	(350.31)

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	917.	135.	43.	41.	12377.
CMS	26.	4.	1.	1.	350.
INCHES		24.63	31.35	31.35	31.35
MM		625.70	796.39	796.39	796.39
AC-FT		67.	85.	85.	85.
THOUS CU M		83.	105.	105.	105.

HYDROGRAPH AT STAAREA 3 FOR PLAN 1, RTIO 1

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	9.	1.	0.	0.	124.
CMS	0.	0.	0.	0.	4.
INCHES		.25	.31	.31	.31
MM		6.26	7.96	7.96	7.96
AC-FT		1.	1.	1.	1.
THOUS CU M		1.	1.	1.	1.

HYDROGRAPH AT STAAREA 3 FOR PLAN 1, RTIO 2

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	18.	3.	1.	1.	248.
CMS	1.	0.	0.	0.	7.
INCHES		.49	.63	.63	.63
MM		12.51	15.93	15.93	15.93

AC-FT	1.	2.	2.	2.
THOUS CU M	2.	2.	2.	2.

HYDROGRAPH AT STAAREA 3 FOR PLAN 1, RTIO 3

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	27.	4.	1.	1.	371.
CMS	1.	0.	0.	0.	11.
INCHES		.74	.94	.94	.94
MM		18.77	23.89	23.89	23.89
AC-FT		2.	3.	3.	3.
THOUS CU M		2.	3.	3.	3.

HYDROGRAPH AT STAAREA 3 FOR PLAN 1, RTIO 4

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	37.	5.	2.	2.	495.
CMS	1.	0.	0.	0.	14.
INCHES		.99	1.25	1.25	1.25
MM		25.03	31.86	31.86	31.86
AC-FT		3.	3.	3.	3.
THOUS CU M		3.	4.	4.	4.

HYDROGRAPH AT STAAREA 3 FOR PLAN 1, RTIO 5

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	46.	7.	2.	2.	619.
CMS	1.	0.	0.	0.	18.
INCHES		1.23	1.57	1.57	1.57
MM		31.29	39.82	39.82	39.82
AC-FT		3.	4.	4.	4.
THOUS CU M		4.	5.	5.	5.

HYDROGRAPH AT STAAREA 3 FOR PLAN 1, RTIO 6

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	458.	68.	21.	21.	6188.
CMS	13.	2.	1.	1.	175.
INCHES		12.32	15.68	15.68	15.68
MM		312.85	398.20	398.20	398.20
AC-FT		33.	43.	43.	43.
THOUS CU M		41.	53.	53.	53.

HYDROGRAPH AT STAAREA 3 FOR PLAN 1, RTIO 7

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME

CFS	917.	135.	43.	41.	12377.
CMS	26.	4.	1.	1.	350.
INCHES		24.63	31.35	31.35	31.35
MM		625.70	796.39	796.39	796.39
AC-FT		67.	85.	85.	85.
THOUS CU M		83.	105.	105.	105.

********** ********** ********** ********** **********

COMBINE HYDROGRAPHS

COMBINE HYDROGRAPHS-TOTAL INFLOW TO HAGAN LAKE (MO 11057)

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
3	2	0	0	0	0	1	0	0

SUM OF 2 HYDROGRAPHS AT 3 PLAN 1 RTIO 1

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
1.	2.	2.	3.	3.	6.	10.	6.	4.	3.
3.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	10.	2.	1.	1.	262.
CMS	0.	0.	0.	0.	7.

INCHES	.08	.14	.14	.14
MM	1.93	3.52	3.52	3.52
AC-FT	1.	2.	2.	2.
THOUS CU M	1.	2.	2.	2.

SUM OF 2 HYDROGRAPHS AT 3 PLAN 1 RTIO 2

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	3.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	4.	4.	5.	6.	12.	20.	12.	8.	6.
5.	5.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	3.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	20.	4.	2.	2.	520.
CMS	1.	0.	0.	0.	15.
INCHES		.15	.28	.28	.28
MM		3.85	7.00	7.00	7.00
AC-FT		2.	4.	4.	4.
THOUS CU M		2.	4.	4.	4.

SUM OF 2 HYDROGRAPHS AT 3 PLAN 1 RTIO 3

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	3.	3.	3.	3.	3.	3.
3.	3.	3.	3.	3.	3.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	4.	4.	5.	5.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
4.	6.	6.	8.	9.	18.	29.	18.	12.	10.
8.	7.	7.	8.	8.	9.	9.	9.	10.	10.
10.	10.	11.	11.	11.	11.	11.	11.	11.	11.
11.	11.	11.	11.	11.	11.	10.	9.	9.	9.
8.	8.	8.	8.	7.	7.	7.	7.	7.	6.
6.	6.	6.	6.	5.	5.	5.	5.	5.	5.
5.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.

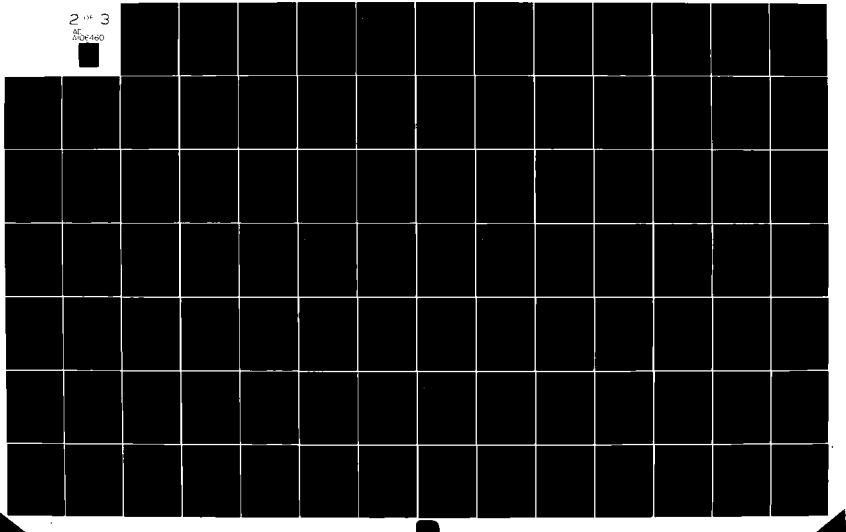
	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	29.	8.	3.	3.	945.
CMS	1.	0.	0.	0.	27.
INCHES		.32	.50	.50	.50
MM		8.11	12.71	12.71	12.71
AC-FT		4.	7.	7.	7.
THOUS CU M		5.	8.	8.	8.

SUM OF 2 HYDROGRAPHS AT 3 PLAN 1 RTIO 4

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	3.	4.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	5.	5.	5.	5.
5.	5.	5.	5.	5.	5.	5.	5.	6.	6.

AD-A106 460 BLACK AND VEATCH KANSAS CITY MO F/G 13/13
NATIONAL DAM SAFETY PROGRAM. MOON VALLEY DAM (MO 11597), MISSOU--ETC(U)
AUG 81 E R BURTON, H L CALLAMAN DACW43-81-C-0037
UNCLASSIFIED NL

2 OF 3
AD A106 460



FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:32:58 CASE PMF

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	55.	18.	7.	7.	2043.
CMS	2.	1.	0.	0.	58.
INCHES		.68	1.08	1.08	1.08
MM		17.18	27.48	27.48	27.48
AC-FT		9.	14.	14.	14.
THOUS CU M		11.	17.	17.	17.

SUM OF 2 HYDROGRAPHS AT 3 PLAN 1 RTIO 6

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	3.	9.	11.	12.	12.	13.	13.	13.	13.
14.	14.	14.	14.	14.	15.	15.	15.	16.	17.
19.	21.	22.	24.	25.	25.	26.	26.	26.	26.
26.	27.	27.	27.	27.	27.	27.	28.	28.	28.
28.	28.	28.	29.	29.	29.	29.	29.	29.	30.
30.	30.	30.	30.	30.	30.	31.	31.	31.	31.
31.	31.	31.	32.	32.	32.	32.	32.	32.	32.
33.	33.	33.	33.	53.	59.	60.	61.	61.	62.
62.	63.	63.	64.	64.	65.	71.	73.	74.	75.
75.	76.	78.	96.	112.	129.	149.	193.	244.	289.
335.	403.	484.	574.	696.	819.	932.	1029.	896.	788.
682.	626.	572.	557.	550.	683.	899.	784.	772.	799.
785.	762.	711.	661.	602.	556.	513.	476.	444.	417.
395.	375.	359.	346.	325.	312.	301.	290.	280.	270.
263.	256.	250.	245.	240.	236.	202.	187.	174.	159.
143.	129.	115.	103.	93.	84.	76.	70.	64.	59.
55.	51.	47.	45.	42.	40.	38.	36.	34.	33.
32.	31.	30.	29.	28.	27.	27.	26.	25.	25.
24.	24.	24.	23.	23.	23.	22.	22.	22.	22.
22.	21.	21.	21.	21.	21.	21.	21.	21.	21.
20.	20.	20.	20.	20.	20.	20.	20.	20.	20.
20.	20.	20.	20.	20.	20.	20.	20.	17.	16.
15.	14.	13.	12.	12.	11.	10.	9.	9.	8.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1029.	386.	112.	107.	32220.
CMS	29.	11.	3.	3.	912.
INCHES		14.73	17.06	17.06	17.06
MM		374.11	433.34	433.34	433.34
AC-FT		192.	222.	222.	222.
THOUS CU M		236.	274.	274.	274.

SUM OF 2 HYDROGRAPHS AT 3 PLAN 1 RTIO 7

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.	2.	2.	2.	3.
3.	3.	3.	3.	3.	3.	3.	3.	3.	4.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	5.	5.	5.	5.	5.	5.	5.	5.	5.
5.	5.	5.	5.	5.	5.	6.	6.	6.	6.
6.	6.	19.	23.	24.	25.	25.	26.	28.	31.
34.	37.	37.	38.	38.	39.	39.	40.	40.	41.
41.	41.	42.	42.	43.	43.	43.	44.	44.	45.
45.	45.	46.	46.	46.	47.	47.	47.	48.	48.
48.	49.	49.	49.	50.	50.	50.	51.	51.	51.
51.	52.	52.	52.	53.	53.	53.	53.	54.	54.
54.	54.	59.	67.	74.	81.	86.	91.	95.	100.
105.	111.	127.	154.	233.	302.	382.	476.	583.	715.
847.	972.	1081.	955.	853.	770.	715.	660.	619.	590.
567.	549.	535.	523.	513.	506.	499.	494.	508.	512.
516.	522.	530.	537.	544.	550.	556.	560.	564.	567.
533.	577.	589.	652.	714.	1046.	1542.	1365.	1373.	1464.
1462.	1434.	1347.	1255.	1160.	1069.	985.	912.	850.	798.
754.	718.	683.	657.	619.	596.	575.	556.	537.	521.
506.	494.	484.	475.	467.	461.	394.	363.	336.	305.
272.	241.	214.	190.	169.	151.	136.	123.	112.	103.
95.	88.	82.	77.	72.	69.	65.	62.	60.	57.
55.	54.	52.	51.	50.	49.	48.	47.	46.	45.
45.	44.	44.	43.	43.	42.	42.	42.	42.	41.
41.	41.	41.	41.	40.	40.	40.	40.	40.	40.
40.	40.	40.	40.	40.	39.	39.	39.	39.	39.
39.	39.	39.	39.	39.	39.	39.	39.	33.	31.
29.	27.	25.	23.	21.	20.	18.	17.	15.	14.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1542.	720.	214.	206.	61746.
CMS	44.	20.	6.	6.	1748.
INCHES		27.45	32.69	32.69	32.69
MM		697.17	830.44	830.44	830.44
AC-FT		357.	425.	425.	425.
THOUS CU M		440.	525.	525.	525.

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HYDROGRAPH ROUTING

ROUTE HYDROGRAPH THROUGH HAGAN LAKE DAM (MO 11057)

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
	DAM 3	1	0	0	0	0	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
.0	.000	.00	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT

1 0 0 .000 .000 .000 -784. -1

STAGE	784.40	784.68	784.95	785.22	785.47	785.73	786.00	786.28	786.56	786.84
	787.14	787.44	787.74	788.04	788.34	788.64				
FLOW	.00	12.00	47.00	121.00	232.00	395.00	645.00	1005.00	1480.00	2075.00
	2802.00	3606.00	4483.00	5427.00	6435.00	7503.00				
SURFACE AREA=	0.	1.	3.	6.	9.	15.				
CAPACITY=	0.	3.	22.	66.	111.	234.				
ELEVATION=	755.	765.	775.	784.	790.	800.				

CREL	SPWID	COQW	EXPW	ELEVL	COQL	CAREA	EXPL
784.4	.0	.0	.0	.0	.0	.0	.0

DAM DATA

TOPEL	COQD	EXPD	DAMWID
785.0	.0	.0	0.

DAM BREACH DATA

BRWID	Z	ELBM	TFAIL	WSEL	FAILEL
10.	.50	770.00	1.00	784.40	785.00

STATION DAM 3, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.

784.4	784.4	784.4	784.4	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.4	784.4	784.4

PEAK OUTFLOW IS 5. AT TIME 16.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	5.	4.	2.	2.	473.
CMS	0.	0.	0.	0.	13.
INCHES		.14	.25	.25	.25
MM		3.57	6.36	6.36	6.36
AC-FT		2.	3.	3.	3.
THOUS CU M		2.	4.	4.	4.

STATION DAM 3, PLAN 1, RATIO 3

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	3.	3.	3.	3.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	4.	4.
4.	4.	4.	4.	4.	5.	5.	6.	7.	7.
7.	7.	7.	7.	7.	7.	7.	7.	7.	7.
7.	8.	8.	8.	8.	8.	8.	8.	8.	8.
9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
8.	8.	8.	8.	8.	8.	8.	8.	8.	7.

7.	7.	7.	7.	7.	7.	7.	7.	6.	6.
6.	6.	6.	6.	6.	6.	6.	5.	5.	5.
5.	5.	5.	5.	5.	5.	5.	5.	4.	4.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	3.	3.	3.	3.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.

STORAGE

66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.

STAGE

784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.5

784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.6	784.6
784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6
784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6
784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6
784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6
784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6
784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5

PEAK OUTFLOW IS 9. AT TIME 18.17 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	9.	8.	3.	3.	878.
CMS	0.	0.	0.	0.	25.
INCHES		.29	.47	.47	.47
MM		7.37	11.81	11.81	11.81
AC-FT		4.	6.	6.	6.
THOUS CU M		5.	7.	7.	7.

STATION DAM 3, PLAN 1, RATIO 4

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	3.	3.	3.	3.
3.	3.	3.	3.	3.	3.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	5.	5.	5.	5.
5.	5.	5.	5.	5.	6.	7.	8.	9.	9.
10.	10.	10.	11.	11.	11.	12.	12.	12.	13.
13.	14.	14.	15.	15.	15.	15.	16.	16.	16.
16.	16.	16.	16.	16.	16.	16.	16.	16.	15.
15.	15.	15.	14.	14.	14.	14.	14.	14.	14.

FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:32:58 CASE PMF

784.4	784.4	784.4	784.4	784.4	784.4	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.6	784.6	784.6	784.6	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.6
784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6
784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6	784.6

PEAK OUTFLOW IS 19. AT TIME 17.08 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	19.	16.	7.	6.	1880.
CMS	1.	0.	0.	0.	53.
INCHES		.62	1.00	1.00	1.00
MM		15.71	25.28	25.28	25.28
AC-FT		8.	13.	13.	13.
THOUS CU M		10.	16.	16.	16.

STATION DAM 3, PLAN 1, RATIO 6

BEGIN DAM FAILURE AT 13.08 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	3.	3.	3.	4.	4.	5.	5.
5.	6.	6.	6.	7.	7.	7.	8.	8.	8.
9.	9.	10.	10.	11.	11.	12.	14.	15.	17.
18.	19.	20.	21.	21.	22.	23.	23.	24.	24.
25.	25.	25.	26.	26.	26.	27.	27.	27.	28.
28.	28.	28.	28.	29.	29.	29.	29.	29.	30.
30.	30.	30.	30.	30.	31.	31.	31.	31.	31.
31.	31.	32.	32.	33.	36.	39.	42.	44.	46.
49.	52.	55.	57.	59.	60.	62.	70.	95.	138.
210.	302.	429.	582.	735.	875.	990.	1075.	1126.	874.
710.	612.	564.	554.	577.	628.	699.	781.	834.	836.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	725.	740.	753.

765.	767.	758.	737.	707.	670.	631.	592.	555.	520.
488.	460.	434.	412.	391.	372.	354.	339.	325.	312.
300.	290.	280.	272.	264.	258.	248.	235.	222.	208.
195.	181.	167.	154.	142.	130.	119.	110.	101.	93.
86.	79.	74.	68.	64.	60.	56.	53.	50.	47.
45.	42.	40.	39.	37.	36.	34.	33.	32.	31.
30.	29.	28.	28.	27.	27.	26.	25.	25.	25.
24.	24.	24.	23.	23.	23.	22.	22.	22.	22.
22.	21.	21.	21.	21.	21.	21.	21.	21.	21.
20.	20.	20.	20.	20.	20.	20.	20.	20.	19.
19.	18.	19.	17.	16.	16.	15.	15.	14.	13.

STORAGE

66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	68.	68.	68.	68.	68.	68.	68.	68.
68.	68.	68.	68.	68.	69.	68.	68.	68.	69.
69.	69.	69.	69.	69.	69.	69.	69.	69.	69.
69.	69.	69.	69.	69.	69.	69.	69.	69.	69.
69.	69.	69.	69.	69.	69.	69.	69.	69.	69.
69.	69.	69.	69.	69.	69.	69.	69.	70.	70.
70.	70.	70.	70.	70.	70.	70.	70.	70.	70.
69.	68.	66.	63.	59.	54.	49.	43.	37.	32.
29.	27.	26.	25.	26.	27.	28.	30.	31.	31.
31.	30.	29.	28.	27.	27.	28.	29.	29.	30.
30.	30.	30.	29.	29.	28.	27.	26.	25.	25.
24.	23.	23.	22.	22.	22.	21.	21.	20.	20.
20.	20.	19.	19.	19.	19.	19.	18.	18.	18.
17.	17.	17.	16.	16.	16.	15.	15.	15.	14.
14.	14.	14.	14.	14.	13.	13.	13.	13.	13.
13.	13.	13.	13.	13.	13.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	11.

STAGE

784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.6	784.6	784.6	784.6	784.6	784.6
784.6	784.6	784.6	784.6	784.7	784.7	784.7	784.7	784.7	784.7
784.7	784.7	784.7	784.7	784.8	784.8	784.8	784.8	784.8	784.8

784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8
784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8
784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8	784.8
784.8	784.8	784.8	784.8	784.8	784.9	784.9	784.9	784.9	784.9
785.0	785.0	785.0	785.0	785.0	785.0	785.0	785.0	785.0	785.0
784.9	784.7	784.4	783.9	783.3	782.5	781.5	780.3	779.0	777.8
776.9	776.3	776.0	776.0	776.1	776.4	776.8	777.3	777.6	777.6
777.4	777.2	776.9	776.7	776.5	776.4	776.7	777.0	777.1	777.1
777.2	777.2	777.2	777.0	776.9	776.7	776.4	776.2	776.0	775.7
775.5	775.3	775.2	775.0	774.8	774.7	774.6	774.4	774.3	774.2
774.1	774.0	774.0	773.9	773.8	773.8	773.7	773.5	773.4	773.3
773.2	773.0	772.9	772.7	772.6	772.5	772.3	772.2	772.1	772.0
771.9	771.8	771.7	771.6	771.6	771.5	771.4	771.4	771.3	771.3
771.2	771.2	771.2	771.1	771.1	771.1	771.0	771.0	771.0	771.0
771.0	770.9	770.9	770.9	770.9	770.9	770.9	770.9	770.9	770.8
770.8	770.8	770.8	770.8	770.8	770.8	770.8	770.8	770.8	770.8
770.8	770.8	770.8	770.8	770.8	770.8	770.8	770.8	770.8	770.7
770.7	770.7	770.7	770.7	770.7	770.7	770.7	770.7	770.7	770.7
770.7	770.7	770.7	770.7	770.6	770.6	770.6	770.6	770.6	770.6

PEAK OUTFLOW IS 1126. AT TIME 14.08 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1126.	499.	139.	134.	40145.
CMS	32.	14.	4.	4.	1137.
INCHES		19.01	21.26	21.26	21.26
MM		482.81	539.93	539.93	539.93
AC-FT		247.	276.	276.	276.
THOUS CU M		305.	341.	341.	341.

THE DAM BREACH HYDROGRAPH WAS DEVELOPED USING A TIME INTERVAL OF .021 HOURS DURING BREACH FORMATION.
DOWNSTREAM CALCULATIONS WILL USE A TIME INTERVAL OF .083 HOURS.
THIS TABLE COMPARES THE HYDROGRAPH FOR DOWNSTREAM CALCULATIONS WITH THE COMPUTED BREACH HYDROGRAPH.
INTERMEDIATE FLOWS ARE INTERPOLATED FROM END-OF-PERIOD VALUES.

TIME (HOURS)	TIME FROM BEGINNING OF BREACH (HOURS)	INTERPOLATED BREACH HYDROGRAPH (CFS)	-	COMPUTED BREACH HYDROGRAPH (CFS)	= ERROR (CFS)	ACCUMULATED ERROR (CFS)	ACCUMULATED ERROR (AC-FT)
13.083	.000	62.		62.	0.	0.	0.
13.104	.021	64.		63.	1.	1.	0.
13.125	.042	66.		64.	2.	3.	0.
13.146	.063	68.		66.	1.	4.	0.
13.167	.083	70.		70.	0.	4.	0.
13.187	.104	76.		74.	2.	6.	0.
13.208	.125	82.		80.	2.	8.	0.
13.229	.146	88.		87.	2.	10.	0.
13.250	.167	95.		95.	0.	10.	0.
13.271	.187	105.		104.	2.	12.	0.
13.292	.208	116.		114.	2.	14.	0.
13.312	.229	127.		126.	2.	16.	0.

STATION DAM 3, PLAN 1, RATIO 7

BEGIN DAM FAILURE AT 11.33 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	3.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	5.	5.	6.	7.	8.	8.	9.	10.
11.	12.	15.	18.	21.	23.	25.	27.	28.	30.
31.	32.	34.	35.	36.	36.	37.	38.	39.	39.
40.	41.	41.	42.	42.	43.	43.	44.	44.	44.
45.	45.	46.	46.	46.	47.	47.	48.	49.	49.
50.	50.	51.	51.	51.	52.	52.	52.	52.	53.
53.	53.	54.	56.	60.	64.	74.	102.	149.	219.
316.	442.	597.	757.	911.	1053.	1175.	1275.	1054.	934.
889.	895.	934.	958.	942.	904.	856.	807.	758.	714.
675.	641.	613.	589.	569.	552.	538.	526.	519.	517.
516.	517.	519.	523.	528.	533.	539.	544.	549.	554.
553.	553.	562.	579.	608.	686.	863.	1038.	1137.	1221.
1294.	1340.	1356.	1339.	1299.	1244.	1179.	1110.	1042.	977.
918.	864.	816.	774.	734.	698.	665.	637.	611.	588.
567.	548.	531.	517.	504.	493.	475.	448.	421.	394.
366.	337.	308.	281.	255.	232.	210.	191.	174.	159.
145.	134.	123.	114.	106.	99.	92.	87.	82.	77.
73.	70.	67.	64.	62.	59.	57.	56.	54.	53.
51.	50.	49.	48.	47.	47.	46.	45.	45.	44.
44.	43.	43.	43.	42.	42.	42.	41.	41.	41.
41.	41.	40.	40.	40.	40.	40.	40.	40.	40.
40.	40.	40.	40.	39.	39.	39.	39.	39.	38.
37.	35.	34.	33.	31.	30.	28.	26.	25.	24.

STORAGE

66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	67.
67.	67.	67.	67.	67.	67.	67.	67.	67.	68.
68.	68.	68.	68.	68.	68.	69.	69.	69.	69.
69.	69.	69.	69.	69.	69.	69.	69.	69.	69.
69.	69.	69.	69.	69.	69.	69.	70.	70.	70.
70.	70.	70.	70.	70.	70.	70.	70.	70.	70.
70.	70.	70.	70.	70.	70.	70.	70.	70.	70.
70.	70.	70.	70.	70.	70.	70.	70.	70.	69.
68.	66.	64.	60.	56.	51.	45.	40.	36.	33.

32.	32.	33.	34.	33.	33.	32.	31.	30.	29.
28.	27.	27.	26.	26.	25.	25.	25.	25.	25.
25.	25.	25.	25.	25.	25.	25.	25.	25.	25.
25.	25.	26.	26.	27.	28.	32.	35.	37.	39.
40.	41.	41.	41.	40.	39.	38.	37.	35.	34.
33.	32.	31.	30.	29.	28.	28.	27.	27.	26.
26.	25.	25.	25.	24.	24.	24.	23.	23.	22.
21.	21.	20.	19.	19.	18.	18.	17.	17.	16.
16.	16.	15.	15.	15.	15.	14.	14.	14.	14.
14.	14.	14.	14.	13.	13.	13.	13.	13.	13.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
13.	13.	13.	13.	13.	13.	13.	13.	13.	13.
13.	12.	12.	12.	12.	12.	12.	12.	12.	12.

STAGE

784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
784.4	784.4	784.4	784.4	784.4	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5	784.5
784.5	784.5	784.5	784.5	784.5	784.6	784.6	784.6	784.6	784.6
784.7	784.7	784.7	784.7	784.7	784.8	784.8	784.8	784.8	784.8
784.8	784.8	784.8	784.9	784.9	784.9	784.9	784.9	784.9	784.9
784.9	784.9	784.9	784.9	784.9	784.9	784.9	784.9	784.9	784.9
784.9	784.9	784.9	784.9	784.9	784.9	785.0	785.0	785.0	785.0
785.0	785.0	785.0	785.0	785.0	785.0	785.0	785.0	785.0	785.0
785.0	785.0	785.0	785.0	785.0	785.0	785.0	785.0	785.0	784.9
784.7	784.5	784.0	783.4	782.7	781.8	780.8	779.6	778.7	778.1
777.9	777.9	778.1	778.2	778.1	777.9	777.7	777.4	777.2	776.9
776.7	776.5	776.3	776.2	776.1	775.9	775.9	775.8	775.7	775.7
775.7	775.7	775.7	775.8	775.8	775.8	775.9	775.9	775.9	776.0
776.0	776.0	776.0	776.1	776.3	776.8	777.7	778.6	779.0	779.4
779.7	779.9	780.0	779.9	779.7	779.5	779.2	778.9	778.6	778.3
778.0	777.7	777.5	777.2	777.0	776.8	776.6	776.5	776.3	776.2
776.0	775.9	775.8	775.7	775.6	775.6	775.4	775.3	775.1	774.9
774.6	774.4	774.2	774.0	773.7	773.5	773.3	773.1	772.9	772.8
772.6	772.5	772.4	772.3	772.2	772.1	772.0	771.9	771.8	771.8
771.7	771.7	771.6	771.6	771.5	771.5	771.5	771.4	771.4	771.4
771.4	771.3	771.3	771.3	771.3	771.3	771.3	771.3	771.2	771.2
771.2	771.2	771.2	771.2	771.2	771.2	771.2	771.2	771.2	771.2
771.2	771.2	771.2	771.2	771.2	771.2	771.2	771.2	771.2	771.2
771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1	771.1
771.1	771.1	771.0	771.0	771.0	770.9	770.9	770.9	770.9	770.8

PEAK OUTFLOW IS 1356. AT TIME 16.08 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1356.	790.	242.	232.	69610.
CMS	38.	22.	7.	7.	1971.
INCHES		30.12	36.86	36.86	36.86
MM		765.04	936.21	936.21	936.21

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SUB-AREA RUNOFF COMPUTATION

RUNOFF CALCULATIONS FOR WATERS EDGE ESTATE LAKE (PO 12102)

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
	AREA 4	0	0	0	0	3	1	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	2	.38	.00	.38	1.00	.000	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
.00	24.80	100.00	120.00	130.00	.00	.00	.00

LOSS DATA

LROPT	STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0	.00	.00	1.00	.00	.00	1.00	-1.00	-93.00	.00	.00

CURVE NO = -93.00 WETNESS = -1.00 EFFECT CN = 93.00

UNIT HYDROGRAPH DATA
TC= .00 LAG= .17

RECESSION DATA
STRTQ= .00 QRCSN= .00 RTIOR= 1.00

UNIT HYDROGRAPH 12 END OF PERIOD ORDINATES, TC= .00 HOURS, LAG= .17 VOL= 1.00

260. 787. 809. 507. 254. 136. 72. 38. 20. 11.
6. 2.

0 END-OF-PERIOD FLOW

MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q	MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q
1.01	.05	1	.01	.00	.01	0.	1.01	12.35	151	.21	.20	.00	583.
1.01	.10	2	.01	.00	.01	0.	1.01	12.40	152	.21	.20	.00	589.
1.01	.15	3	.01	.00	.01	0.	1.01	12.45	153	.21	.20	.00	592.
1.01	.20	4	.01	.00	.01	0.	1.01	12.50	154	.21	.21	.00	593.
1.01	.25	5	.01	.00	.01	0.	1.01	12.55	155	.21	.21	.00	595.
1.01	.30	6	.01	.00	.01	0.	1.01	13.00	156	.21	.21	.00	595.
1.01	.35	7	.01	.00	.01	0.	1.01	13.05	157	.25	.25	.00	606.
1.01	.40	8	.01	.00	.01	0.	1.01	13.10	158	.25	.25	.00	639.
1.01	.45	9	.01	.00	.01	0.	1.01	13.15	159	.25	.25	.00	672.
1.01	.50	10	.01	.00	.01	0.	1.01	13.20	160	.25	.25	.00	693.
1.01	.55	11	.01	.00	.01	0.	1.01	13.25	161	.25	.25	.00	704.
1.01	1.00	12	.01	.00	.01	0.	1.01	13.30	162	.25	.25	.00	709.
1.01	1.05	13	.01	.00	.01	0.	1.01	13.35	163	.25	.25	.00	713.
1.01	1.10	14	.01	.00	.01	1.	1.01	13.40	164	.25	.25	.00	714.
1.01	1.15	15	.01	.00	.01	2.	1.01	13.45	165	.25	.25	.00	715.
1.01	1.20	16	.01	.00	.01	2.	1.01	13.50	166	.25	.25	.00	716.

1.01	1.25	17	.01	.00	.01	4.	1.01	13.55	167	.25	.25	.00	716.
1.01	1.30	18	.01	.00	.01	6.	1.01	14.00	168	.25	.25	.00	717.
1.01	1.35	19	.01	.00	.01	7.	1.01	14.05	169	.31	.31	.00	733.
1.01	1.40	20	.01	.00	.01	8.	1.01	14.10	170	.31	.31	.00	782.
1.01	1.45	21	.01	.00	.01	9.	1.01	14.15	171	.31	.31	.00	832.
1.01	1.50	22	.01	.00	.01	10.	1.01	14.20	172	.31	.31	.00	863.
1.01	1.55	23	.01	.00	.01	11.	1.01	14.25	173	.31	.31	.00	879.
1.01	2.00	24	.01	.00	.01	12.	1.01	14.30	174	.31	.31	.00	888.
1.01	2.05	25	.01	.00	.01	12.	1.01	14.35	175	.31	.31	.00	892.
1.01	2.10	26	.01	.01	.01	13.	1.01	14.40	176	.31	.31	.00	895.
1.01	2.15	27	.01	.01	.01	14.	1.01	14.45	177	.31	.31	.00	896.
1.01	2.20	28	.01	.01	.01	15.	1.01	14.50	178	.31	.31	.00	897.
1.01	2.25	29	.01	.01	.01	16.	1.01	14.55	179	.31	.31	.00	897.
1.01	2.30	30	.01	.01	.01	16.	1.01	15.00	180	.31	.31	.00	897.
1.01	2.35	31	.01	.01	.01	17.	1.01	15.05	181	.19	.19	.00	866.
1.01	2.40	32	.01	.01	.01	17.	1.01	15.10	182	.38	.38	.00	820.
1.01	2.45	33	.01	.01	.01	18.	1.01	15.15	183	.38	.38	.00	870.
1.01	2.50	34	.01	.01	.01	19.	1.01	15.20	184	.57	.56	.00	1009.
1.01	2.55	35	.01	.01	.01	19.	1.01	15.25	185	.66	.66	.00	1246.
1.01	3.00	36	.01	.01	.01	20.	1.01	15.30	186	1.60	1.60	.00	1749.
1.01	3.05	37	.01	.01	.01	20.	1.01	15.35	187	2.64	2.64	.00	2948.
1.01	3.10	38	.01	.01	.01	21.	1.01	15.40	188	1.04	1.04	.00	4213.
1.01	3.15	39	.01	.01	.01	21.	1.01	15.45	189	.66	.66	.00	4225.
1.01	3.20	40	.01	.01	.01	22.	1.01	15.50	190	.57	.56	.00	3403.
1.01	3.25	41	.01	.01	.01	22.	1.01	15.55	191	.38	.38	.00	2571.
1.01	3.30	42	.01	.01	.01	23.	1.01	16.00	192	.38	.38	.00	1965.
1.01	3.35	43	.01	.01	.01	23.	1.01	16.05	193	.29	.29	.00	1543.
1.01	3.40	44	.01	.01	.01	23.	1.01	16.10	194	.29	.29	.00	1249.
1.01	3.45	45	.01	.01	.01	24.	1.01	16.15	195	.29	.29	.00	1062.
1.01	3.50	46	.01	.01	.01	24.	1.01	16.20	196	.29	.29	.00	955.
1.01	3.55	47	.01	.01	.01	25.	1.01	16.25	197	.29	.29	.00	900.
1.01	4.00	48	.01	.01	.00	25.	1.01	16.30	198	.29	.29	.00	868.
1.01	4.05	49	.01	.01	.00	25.	1.01	16.35	199	.29	.29	.00	851.
1.01	4.10	50	.01	.01	.00	26.	1.01	16.40	200	.29	.29	.00	844.
1.01	4.15	51	.01	.01	.00	26.	1.01	16.45	201	.29	.29	.00	841.
1.01	4.20	52	.01	.01	.00	26.	1.01	16.50	202	.29	.29	.00	840.
1.01	4.25	53	.01	.01	.00	26.	1.01	16.55	203	.29	.29	.00	839.
1.01	4.30	54	.01	.01	.00	27.	1.01	17.00	204	.29	.29	.00	839.
1.01	4.35	55	.01	.01	.00	27.	1.01	17.05	205	.23	.23	.00	823.
1.01	4.40	56	.01	.01	.00	27.	1.01	17.10	206	.23	.23	.00	774.
1.01	4.45	57	.01	.01	.00	28.	1.01	17.15	207	.23	.23	.00	724.
1.01	4.50	58	.01	.01	.00	28.	1.01	17.20	208	.23	.23	.00	693.
1.01	4.55	59	.01	.01	.00	28.	1.01	17.25	209	.23	.23	.00	677.
1.01	5.00	60	.01	.01	.00	28.	1.01	17.30	210	.23	.23	.00	669.
1.01	5.05	61	.01	.01	.00	28.	1.01	17.35	211	.23	.23	.00	664.
1.01	5.10	62	.01	.01	.00	29.	1.01	17.40	212	.23	.23	.00	662.
1.01	5.15	63	.01	.01	.00	29.	1.01	17.45	213	.23	.23	.00	661.
1.01	5.20	64	.01	.01	.00	29.	1.01	17.50	214	.23	.23	.00	660.
1.01	5.25	65	.01	.01	.00	29.	1.01	17.55	215	.23	.23	.00	660.
1.01	5.30	66	.01	.01	.00	30.	1.01	18.00	216	.23	.23	.00	659.
1.01	5.35	67	.01	.01	.00	30.	1.01	18.05	217	.02	.02	.00	606.
1.01	5.40	68	.01	.01	.00	30.	1.01	18.10	218	.02	.02	.00	443.
1.01	5.45	69	.01	.01	.00	30.	1.01	18.15	219	.02	.02	.00	276.
1.01	5.50	70	.01	.01	.00	30.	1.01	18.20	220	.02	.02	.00	171.
1.01	5.55	71	.01	.01	.00	30.	1.01	18.25	221	.02	.02	.00	119.
1.01	6.00	72	.01	.01	.00	31.	1.01	18.30	222	.02	.02	.00	91.

1.01	6.05	73	.07	.05	.01	42.	1.01	18.35	223	.02	.02	.00	76.
1.01	6.10	74	.07	.06	.01	77.	1.01	18.40	224	.02	.02	.00	68.
1.01	6.15	75	.07	.06	.01	113.	1.01	18.45	225	.02	.02	.00	64.
1.01	6.20	76	.07	.06	.01	137.	1.01	18.50	226	.02	.02	.00	62.
1.01	6.25	77	.07	.06	.01	151.	1.01	18.55	227	.02	.02	.00	60.
1.01	6.30	78	.07	.06	.01	159.	1.01	19.00	228	.02	.02	.00	60.
1.01	6.35	79	.07	.06	.01	164.	1.01	19.05	229	.02	.02	.00	60.
1.01	6.40	80	.07	.06	.01	168.	1.01	19.10	230	.02	.02	.00	60.
1.01	6.45	81	.07	.06	.01	171.	1.01	19.15	231	.02	.02	.00	60.
1.01	6.50	82	.07	.06	.01	173.	1.01	19.20	232	.02	.02	.00	60.
1.01	6.55	83	.07	.06	.01	175.	1.01	19.25	233	.02	.02	.00	60.
1.01	7.00	84	.07	.06	.01	177.	1.01	19.30	234	.02	.02	.00	60.
1.01	7.05	85	.07	.06	.01	178.	1.01	19.35	235	.02	.02	.00	60.
1.01	7.10	86	.07	.06	.01	180.	1.01	19.40	236	.02	.02	.00	60.
1.01	7.15	87	.07	.06	.01	181.	1.01	19.45	237	.02	.02	.00	60.
1.01	7.20	88	.07	.06	.01	182.	1.01	19.50	238	.02	.02	.00	60.
1.01	7.25	89	.07	.06	.01	183.	1.01	19.55	239	.02	.02	.00	60.
1.01	7.30	90	.07	.06	.00	184.	1.01	20.00	240	.02	.02	.00	60.
1.01	7.35	91	.07	.06	.00	184.	1.01	20.05	241	.02	.02	.00	60.
1.01	7.40	92	.07	.06	.00	185.	1.01	20.10	242	.02	.02	.00	60.
1.01	7.45	93	.07	.06	.00	186.	1.01	20.15	243	.02	.02	.00	60.
1.01	7.50	94	.07	.06	.00	187.	1.01	20.20	244	.02	.02	.00	60.
1.01	7.55	95	.07	.06	.00	187.	1.01	20.25	245	.02	.02	.00	60.
1.01	8.00	96	.07	.07	.00	188.	1.01	20.30	246	.02	.02	.00	60.
1.01	8.05	97	.07	.07	.00	188.	1.01	20.35	247	.02	.02	.00	60.
1.01	8.10	98	.07	.07	.00	189.	1.01	20.40	248	.02	.02	.00	60.
1.01	8.15	99	.07	.07	.00	189.	1.01	20.45	249	.02	.02	.00	60.
1.01	8.20	100	.07	.07	.00	190.	1.01	20.50	250	.02	.02	.00	60.
1.01	8.25	101	.07	.07	.00	190.	1.01	20.55	251	.02	.02	.00	60.
1.01	8.30	102	.07	.07	.00	190.	1.01	21.00	252	.02	.02	.00	60.
1.01	8.35	103	.07	.07	.00	191.	1.01	21.05	253	.02	.02	.00	60.
1.01	8.40	104	.07	.07	.00	191.	1.01	21.10	254	.02	.02	.00	60.
1.01	8.45	105	.07	.07	.00	192.	1.01	21.15	255	.02	.02	.00	60.
1.01	8.50	106	.07	.07	.00	192.	1.01	21.20	256	.02	.02	.00	60.
1.01	8.55	107	.07	.07	.00	192.	1.01	21.25	257	.02	.02	.00	60.
1.01	9.00	108	.07	.07	.00	192.	1.01	21.30	258	.02	.02	.00	60.
1.01	9.05	109	.07	.07	.00	193.	1.01	21.35	259	.02	.02	.00	60.
1.01	9.10	110	.07	.07	.00	193.	1.01	21.40	260	.02	.02	.00	60.
1.01	9.15	111	.07	.07	.00	193.	1.01	21.45	261	.02	.02	.00	60.
1.01	9.20	112	.07	.07	.00	193.	1.01	21.50	262	.02	.02	.00	60.
1.01	9.25	113	.07	.07	.00	194.	1.01	21.55	263	.02	.02	.00	60.
1.01	9.30	114	.07	.07	.00	194.	1.01	22.00	264	.02	.02	.00	60.
1.01	9.35	115	.07	.07	.00	194.	1.01	22.05	265	.02	.02	.00	60.
1.01	9.40	116	.07	.07	.00	194.	1.01	22.10	266	.02	.02	.00	60.
1.01	9.45	117	.07	.07	.00	194.	1.01	22.15	267	.02	.02	.00	60.
1.01	9.50	118	.07	.07	.00	195.	1.01	22.20	268	.02	.02	.00	60.
1.01	9.55	119	.07	.07	.00	195.	1.01	22.25	269	.02	.02	.00	60.
1.01	10.00	120	.07	.07	.00	195.	1.01	22.30	270	.02	.02	.00	60.
1.01	10.05	121	.07	.07	.00	195.	1.01	22.35	271	.02	.02	.00	60.
1.01	10.10	122	.07	.07	.00	195.	1.01	22.40	272	.02	.02	.00	60.
1.01	10.15	123	.07	.07	.00	195.	1.01	22.45	273	.02	.02	.00	60.
1.01	10.20	124	.07	.07	.00	195.	1.01	22.50	274	.02	.02	.00	60.
1.01	10.25	125	.07	.07	.00	196.	1.01	22.55	275	.02	.02	.00	60.
1.01	10.30	126	.07	.07	.00	196.	1.01	23.00	276	.02	.02	.00	60.
1.01	10.35	127	.07	.07	.00	196.	1.01	23.05	277	.02	.02	.00	60.
1.01	10.40	128	.07	.07	.00	196.	1.01	23.10	278	.02	.02	.00	60.

1.01	10.45	129	.07	.07	.00	196.	1.01	23.15	279	.02	.02	.00	60.
1.01	10.50	130	.07	.07	.00	196.	1.01	23.20	280	.02	.02	.00	60.
1.01	10.55	131	.07	.07	.00	196.	1.01	23.25	281	.02	.02	.00	60.
1.01	11.00	132	.07	.07	.00	196.	1.01	23.30	282	.02	.02	.00	60.
1.01	11.05	133	.07	.07	.00	196.	1.01	23.35	283	.02	.02	.00	60.
1.01	11.10	134	.07	.07	.00	196.	1.01	23.40	284	.02	.02	.00	60.
1.01	11.15	135	.07	.07	.00	197.	1.01	23.45	285	.02	.02	.00	60.
1.01	11.20	136	.07	.07	.00	197.	1.01	23.50	286	.02	.02	.00	60.
1.01	11.25	137	.07	.07	.00	197.	1.01	23.55	287	.02	.02	.00	60.
1.01	11.30	138	.07	.07	.00	197.	1.02	.00	288	.02	.02	.00	60.
1.01	11.35	139	.07	.07	.00	197.	1.02	.05	289	.00	.00	.00	55.
1.01	11.40	140	.07	.07	.00	197.	1.02	.10	290	.00	.00	.00	38.
1.01	11.45	141	.07	.07	.00	197.	1.02	.15	291	.00	.00	.00	22.
1.01	11.50	142	.07	.07	.00	197.	1.02	.20	292	.00	.00	.00	11.
1.01	11.55	143	.07	.07	.00	197.	1.02	.25	293	.00	.00	.00	6.
1.01	12.00	144	.07	.07	.00	197.	1.02	.30	294	.00	.00	.00	3.
1.01	12.05	145	.21	.20	.00	233.	1.02	.35	295	.00	.00	.00	2.
1.01	12.10	146	.21	.20	.00	340.	1.02	.40	296	.00	.00	.00	1.
1.01	12.15	147	.21	.20	.00	450.	1.02	.45	297	.00	.00	.00	0.
1.01	12.20	148	.21	.20	.00	519.	1.02	.50	298	.00	.00	.00	0.
1.01	12.25	149	.21	.20	.00	554.	1.02	.55	299	.00	.00	.00	0.
1.01	12.30	150	.21	.20	.00	573.	1.02	1.00	300	.00	.00	.00	0.
									SUM	32.24	31.35	.89	91011.
										(819.)	(796.)	(23.)	(2577.14)

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	4225.	988.	316.	303.	91005.
CMS	120.	28.	9.	9.	2577.
INCHES		24.51	31.35	31.35	31.35
MM		622.62	796.39	796.39	796.39
AC-FT		490.	627.	627.	627.
THOUS CU M		604.	773.	773.	773.

HYDROGRAPH AT STAAREA 4 FOR PLAN 1, RTIO 1

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	42.	10.	3.	3.	910.
CMS	1.	0.	0.	0.	26.
INCHES		.25	.31	.31	.31
MM		6.23	7.96	7.96	7.96
AC-FT		5.	6.	6.	6.
THOUS CU M		6.	8.	8.	8.

HYDROGRAPH AT STAAREA 4 FOR PLAN 1, RTIO 2

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	85.	20.	6.	6.	1820.
CMS	2.	1.	0.	0.	52.
INCHES		.49	.63	.63	.63
MM		12.45	15.93	15.93	15.93
AC-FT		10.	13.	13.	13.

THOUS CU M		12.	15.	15.	15.

HYDROGRAPH AT STAAREA 4 FOR PLAN 1, RTIO 3

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	127.	30.	9.	9.	2730.
CMS	4.	1.	0.	0.	77.
INCHES		.74	.94	.94	.94
MM		18.68	23.89	23.89	23.89
AC-FT		15.	19.	19.	19.
THOUS CU M		18.	23.	23.	23.

HYDROGRAPH AT STAAREA 4 FOR PLAN 1, RTIO 4

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	169.	40.	13.	12.	3640.
CMS	5.	1.	0.	0.	103.
INCHES		.98	1.25	1.25	1.25
MM		24.90	31.86	31.86	31.86
AC-FT		20.	25.	25.	25.
THOUS CU M		24.	31.	31.	31.

HYDROGRAPH AT STAAREA 4 FOR PLAN 1, RTIO 5

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	211.	49.	16.	15.	4550.
CMS	6.	1.	0.	0.	129.
INCHES		1.23	1.57	1.57	1.57
MM		31.13	39.82	39.82	39.82
AC-FT		24.	31.	31.	31.
THOUS CU M		30.	39.	39.	39.

HYDROGRAPH AT STAAREA 4 FOR PLAN 1, RTIO 6

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2113.	494.	158.	152.	45502.
CMS	60.	14.	4.	4.	1288.
INCHES		12.26	15.68	15.68	15.68
MM		311.31	398.20	398.20	398.20
AC-FT		245.	313.	313.	313.
THOUS CU M		302.	387.	387.	387.

HYDROGRAPH AT STAAREA 4 FOR PLAN 1, RTIO 7

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	4225.	988.	316.	303.	91005.

MM	4.26	6.44	6.44	6.44
AC-FT	36.	54.	54.	54.
THOUS CU M	44.	66.	66.	66.

SUM OF 3 HYDROGRAPHS AT 4 PLAN 1 RTIO 2

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	2.	3.	3.	4.	4.	4.	4.
4.	4.	4.	5.	5.	5.	5.	5.	5.	5.
5.	5.	6.	6.	6.	6.	6.	6.	6.	7.
7.	7.	7.	7.	8.	8.	8.	8.	8.	9.
9.	9.	9.	9.	10.	10.	10.	10.	11.	11.
11.	11.	11.	12.	12.	12.	12.	12.	13.	13.
13.	13.	13.	14.	14.	14.	14.	14.	15.	15.
15.	15.	15.	15.	16.	19.	22.	25.	26.	28.
29.	30.	30.	31.	32.	33.	34.	35.	36.	38.
39.	40.	41.	42.	43.	44.	45.	46.	48.	50.
52.	54.	56.	58.	59.	61.	62.	64.	66.	68.
69.	70.	73.	77.	84.	96.	121.	150.	153.	139.
124.	114.	108.	105.	104.	105.	107.	110.	113.	116.
120.	124.	128.	132.	135.	139.	142.	145.	148.	152.
155.	160.	164.	169.	174.	180.	183.	184.	185.	186.
187.	189.	190.	191.	191.	191.	190.	189.	187.	185.
183.	181.	178.	176.	173.	170.	167.	163.	160.	157.
154.	151.	148.	145.	143.	140.	138.	136.	134.	131.
129.	127.	124.	122.	119.	117.	114.	112.	110.	107.
105.	103.	100.	98.	96.	93.	91.	89.	87.	85.
83.	80.	78.	77.	75.	73.	72.	70.	68.	67.
65.	64.	62.	61.	59.	58.	57.	55.	54.	52.
50.	49.	48.	47.	45.	44.	43.	42.	41.	41.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	191.	149.	57.	54.	16308.
CMS	5.	4.	2.	2.	462.
INCHES		.35	.53	.53	.53
MM		8.84	13.42	13.42	13.42
AC-FT		74.	112.	112.	112.
THOUS CU M		91.	139.	139.	139.

SUM OF 3 HYDROGRAPHS AT 4 PLAN 1 RTIO 3

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.

1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	2.	2.	2.
2.	2.	2.	3.	4.	5.	6.	6.	6.	6.
6.	7.	7.	7.	7.	7.	7.	7.	8.	8.
8.	8.	8.	8.	9.	9.	9.	9.	10.	10.
10.	10.	11.	11.	11.	12.	12.	12.	12.	13.
13.	13.	14.	14.	14.	14.	15.	15.	15.	16.
16.	16.	16.	17.	17.	17.	18.	18.	19.	21.
22.	23.	25.	26.	27.	27.	28.	29.	30.	31.
32.	32.	33.	34.	35.	39.	43.	46.	48.	49.
50.	51.	52.	53.	53.	54.	55.	57.	59.	61.
62.	63.	65.	66.	67.	69.	70.	72.	74.	76.
81.	84.	86.	89.	91.	94.	96.	98.	101.	103.
104.	106.	110.	117.	128.	146.	186.	227.	231.	210.
188.	173.	164.	159.	158.	159.	162.	166.	170.	177.
186.	197.	209.	223.	236.	249.	263.	276.	289.	302.
313.	324.	333.	340.	347.	351.	353.	350.	346.	343.
340.	337.	333.	329.	324.	319.	313.	307.	300.	294.
287.	281.	274.	267.	260.	253.	246.	239.	232.	225.
219.	212.	206.	200.	194.	188.	182.	177.	171.	166.
161.	157.	153.	150.	146.	144.	141.	138.	136.	133.
131.	128.	125.	123.	120.	118.	115.	113.	110.	108.
106.	103.	101.	99.	96.	94.	92.	90.	88.	86.
84.	82.	80.	78.	76.	75.	73.	72.	70.	68.
66.	64.	63.	61.	60.	58.	57.	56.	54.	53.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	353.	239.	87.	84.	25165.
CMS	10.	7.	2.	2.	713.
INCHES		.56	.82	.82	.82
MM		14.18	20.70	20.70	20.70
AC-FT		119.	173.	173.	173.
THOUS CU M		146.	214.	214.	214.

SUM OF 3 HYDROGRAPHS AT 4 PLAN 1 RTIO 4

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	3.	4.	6.	7.	7.	8.	8.	8.
9.	9.	9.	9.	9.	10.	10.	10.	10.	10.
11.	11.	11.	11.	12.	12.	12.	12.	13.	13.
13.	14.	14.	15.	15.	15.	16.	16.	16.	17.
17.	17.	18.	18.	18.	19.	19.	19.	20.	21.
23.	25.	27.	28.	29.	30.	32.	33.	34.	35.
36.	37.	38.	39.	40.	41.	42.	43.	44.	45.
46.	46.	47.	48.	50.	55.	61.	64.	66.	68.
69.	70.	71.	72.	73.	74.	75.	78.	80.	83.
84.	86.	88.	90.	91.	93.	95.	97.	100.	104.
109.	113.	116.	119.	123.	126.	129.	132.	136.	139.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2575.	599.	183.	176.	52756.
CMS	73.	17.	5.	5.	1494.
INCHES		1.40	1.71	1.71	1.71
MM		35.51	43.40	43.40	43.40
AC-FT		297.	363.	363.	363.
THOUS CU M		367.	448.	448.	448.

SUM OF 3 HYDROGRAPHS AT 4 PLAN 1 RTIO 6

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	1.	1.	2.	2.	3.	3.	4.
5.	5.	6.	6.	6.	7.	7.	8.	8.	9.
9.	9.	10.	10.	10.	11.	11.	11.	12.	12.
12.	13.	13.	13.	14.	14.	14.	15.	15.	16.
16.	16.	17.	17.	18.	18.	19.	19.	20.	20.
21.	21.	22.	23.	23.	24.	24.	25.	25.	26.
26.	27.	33.	51.	70.	85.	95.	102.	107.	111.
115.	119.	123.	127.	131.	135.	139.	143.	148.	153.
159.	165.	171.	178.	185.	193.	202.	211.	221.	230.
240.	250.	263.	282.	304.	330.	358.	388.	420.	451.
482.	512.	541.	568.	593.	620.	670.	754.	872.	1025.
1213.	1437.	1705.	2023.	2347.	2604.	2738.	2207.	1800.	1501.
1286.	1138.	1038.	973.	933.	907.	893.	885.	881.	880.
881.	883.	885.	888.	909.	969.	1031.	1073.	1098.	1117.
1134.	1151.	1169.	1187.	1208.	1231.	1264.	1317.	1392.	1484.
1603.	1743.	1921.	2126.	2334.	2532.	2707.	2853.	2976.	2812.
2739.	2723.	2751.	2814.	2907.	3029.	3169.	3320.	3442.	3513.
3535.	3535.	3579.	3671.	3821.	4133.	4848.	5605.	5708.	5396.
5087.	4894.	4785.	4734.	4734.	4777.	4850.	4941.	5058.	5208.
5391.	5594.	5827.	6081.	6298.	6449.	6553.	6626.	6673.	6699.
6707.	6697.	6669.	6624.	6565.	6496.	6388.	6212.	6025.	5859.
5709.	5561.	5413.	5266.	5123.	4987.	4860.	4737.	4612.	4488.
4365.	4244.	4125.	4007.	3884.	3752.	3613.	3468.	3317.	3161.
3006.	2853.	2698.	2552.	2413.	2280.	2153.	2032.	1916.	1807.
1703.	1605.	1513.	1427.	1347.	1273.	1205.	1141.	1083.	1029.
979.	932.	889.	850.	812.	778.	745.	715.	687.	661.
637.	614.	593.	573.	555.	538.	522.	507.	494.	481.
469.	459.	448.	439.	430.	420.	410.	399.	387.	371.
355.	343.	335.	328.	321.	316.	310.	304.	298.	291.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	6707.	4781.	1688.	1621.	486203.
CMS	190.	135.	48.	46.	13768.
INCHES		11.15	15.75	15.75	15.75
MM		283.22	399.99	399.99	399.99
AC-FT		2371.	3349.	3349.	3349.
THOUS CU M		2925.	4130.	4130.	4130.

SUM OF 3 HYDROGRAPHS AT 4 PLAN 1 RTIO 7

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:32:58 CASE PMF

0.	0.	0.	1.	2.	3.	5.	6.	7.	8.
9.	10.	11.	12.	13.	14.	15.	16.	16.	17.
18.	19.	19.	20.	21.	21.	22.	23.	23.	24.
25.	25.	26.	27.	27.	28.	29.	30.	30.	31.
32.	33.	34.	35.	36.	36.	37.	38.	39.	40.
41.	42.	43.	44.	48.	51.	55.	58.	61.	64.
67.	70.	84.	122.	162.	190.	208.	220.	230.	238.
245.	253.	262.	271.	280.	290.	300.	309.	320.	330.
342.	353.	369.	394.	425.	463.	508.	557.	611.	668.
725.	785.	873.	997.	1149.	1327.	1531.	1770.	2041.	2353.
2715.	3071.	3327.	2926.	2434.	2145.	1960.	1798.	1703.	1643.
1607.	1588.	1579.	1579.	1583.	1590.	1600.	1610.	1621.	1633.
1644.	1655.	1666.	1679.	1692.	1706.	1725.	1762.	1818.	1896.
2000.	2134.	2296.	2462.	2658.	2915.	3155.	3333.	3159.	3071.
3053.	3085.	3152.	3208.	3228.	3231.	3243.	3281.	3329.	3377.
3428.	3487.	3555.	3633.	3720.	3814.	3916.	4025.	4153.	4316.
4493.	4648.	4789.	4924.	5056.	5186.	5315.	5445.	5585.	5736.
5861.	5979.	6204.	6545.	7007.	7781.	9350.	10901.	11317.	10816.
10413.	10031.	9918.	9921.	10031.	10230.	10497.	10806.	11151.	11518.
11881.	12227.	12546.	12825.	13047.	13189.	13287.	13359.	13404.	13421.
13412.	13374.	13300.	13191.	13059.	12908.	12679.	12313.	11923.	11570.
11244.	10919.	10588.	10254.	9923.	9599.	9287.	8987.	8691.	8397.
8104.	7812.	7521.	7234.	6952.	6673.	6398.	6129.	5868.	5616.
5374.	5148.	4944.	4763.	4585.	4411.	4244.	4084.	3927.	3757.
3579.	3396.	3209.	3026.	2850.	2682.	2529.	2388.	2259.	2140.
2030.	1929.	1835.	1749.	1669.	1595.	1527.	1463.	1404.	1348.
1297.	1249.	1205.	1164.	1126.	1090.	1057.	1027.	998.	972.
947.	925.	904.	884.	865.	846.	825.	804.	779.	746.
714.	690.	672.	657.	644.	632.	620.	608.	596.	583.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	13421.	9328.	3315.	3182.	954695.
CMS	380.	264.	94.	90.	27034.
INCHES		21.75	30.92	30.92	30.92
MM		552.50	785.40	785.40	785.40
AC-FT		4625.	6575.	6575.	6575.
THOUS CU M		5705.	8110.	8110.	8110.

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HYDROGRAPH ROUTING

ROUTE THROUGH WATERS EDGE ESTATE LAKE DAM (NO 12102)

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
DAM 4	1	0	0	0	0	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
.0	.000	.00	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	.000	.000	.000	-762.	-1

STAGE	762.50	763.33	764.59	765.82	769.40	770.14	770.60	771.45	772.12	773.75
	775.36									
FLOW	.00	50.00	200.00	400.00	1200.00	1470.00	2150.00	4020.00	5980.00	12000.00
	19520.00									
SURFACE AREA=	0.	3.	14.	17.	28.	50.				
CAPACITY=	0.	5.	83.	122.	289.	674.				
ELEVATION=	745.	750.	760.	762.	770.	780.				

CREL	SPWID	COQW	EXPW	ELEVL	COQL	CAREA	EXPL
762.5	.0	.0	.0	.0	.0	.0	.0

DAM DATA

TOPEL	COQD	EXPD	DAMWID
770.0	.0	.0	0.

DAM BREACH DATA

BRWID	Z	ELBM	TFAIL	WSEL	FAILEL
10.	.50	746.00	1.00	762.50	770.00

STATION DAM 4, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	3.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	4.	4.	5.	5.	5.	5.	5.	5.
6.	6.	6.	6.	6.	6.	7.	7.	7.	7.
7.	8.	8.	8.	8.	8.	9.	9.	9.	9.
9.	10.	10.	10.	10.	11.	11.	11.	11.	12.
12.	13.	13.	13.	14.	15.	15.	16.	18.	19.
20.	21.	22.	22.	23.	23.	24.	25.	25.	26.
27.	27.	28.	29.	30.	31.	32.	32.	33.	34.
35.	36.	37.	38.	39.	40.	41.	42.	43.	44.
45.	46.	47.	47.	48.	49.	50.	52.	53.	55.
56.	57.	59.	60.	61.	62.	63.	63.	64.	65.
66.	66.	67.	67.	67.	68.	68.	68.	68.	68.
68.	68.	68.	68.	68.	67.	67.	67.	66.	66.
65.	65.	64.	64.	63.	63.	62.	61.	61.	60.

763.0	763.0	763.0	763.0	763.1	763.1	763.1	763.2	763.2	763.2
763.3	763.3	763.3	763.3	763.4	763.4	763.4	763.4	763.4	763.5
763.5	763.5	763.5	763.5	763.6	763.6	763.6	763.6	763.6	763.7
763.7	763.7	763.7	763.8	763.8	763.8	763.8	763.9	763.9	763.9
763.9	764.0	764.0	764.0	764.0	764.1	764.1	764.1	764.1	764.1
764.1	764.1	764.2	764.2	764.2	764.2	764.2	764.2	764.2	764.2
764.2	764.2	764.2	764.2	764.2	764.2	764.2	764.2	764.2	764.2
764.2	764.2	764.1	764.1	764.1	764.1	764.1	764.1	764.1	764.1
764.1	764.1	764.0	764.0	764.0	764.0	764.0	764.0	764.0	763.9
763.9	763.9	763.9	763.9	763.9	763.9	763.8	763.8	763.8	763.8
763.8	763.8	763.8	763.7	763.7	763.7	763.7	763.7	763.7	763.7
763.6	763.6	763.6	763.6	763.6	763.6	763.6	763.6	763.5	763.5

PEAK OUTFLOW IS 153. AT TIME 20.08 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	153.	132.	47.	46.	13657.
CMS	4.	4.	1.	1.	387.
INCHES		.31	.44	.44	.44
MM		7.85	11.24	11.24	11.24
AC-FT		66.	94.	94.	94.
THOUS CU M		81.	116.	116.	116.

STATION DAM 4, PLAN 1, RATIO 3

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.	2.	2.	2.	3.
3.	3.	3.	3.	3.	3.	3.	4.	4.	4.
4.	4.	4.	5.	5.	5.	5.	5.	5.	5.
6.	6.	6.	6.	6.	7.	7.	7.	7.	7.
8.	8.	8.	8.	8.	9.	9.	9.	9.	9.
10.	10.	10.	11.	11.	11.	12.	12.	13.	13.
13.	14.	14.	15.	15.	16.	16.	17.	18.	18.
19.	20.	21.	21.	22.	23.	24.	24.	25.	26.
27.	28.	28.	29.	30.	31.	32.	33.	34.	35.
36.	37.	38.	39.	40.	41.	43.	44.	45.	46.
48.	49.	51.	54.	57.	60.	65.	71.	78.	84.
89.	93.	96.	99.	102.	104.	107.	109.	112.	114.
117.	120.	124.	128.	132.	137.	142.	147.	153.	159.
165.	171.	178.	184.	191.	197.	205.	213.	220.	227.
233.	239.	244.	249.	253.	257.	260.	262.	265.	266.
268.	269.	269.	269.	269.	268.	267.	266.	264.	262.
260.	258.	255.	252.	249.	246.	243.	239.	236.	232.

229.	225.	221.	217.	213.	210.	206.	202.	199.	196.
194.	191.	189.	186.	183.	181.	178.	175.	173.	170.
168.	165.	162.	160.	157.	155.	152.	149.	147.	144.
142.	139.	137.	134.	132.	130.	127.	125.	123.	120.
118.	116.	114.	111.	109.	107.	105.	103.	101.	99.

STORAGE

122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	123.	123.	123.	123.	123.	123.
123.	123.	123.	123.	123.	123.	123.	123.	123.	123.
123.	123.	123.	123.	123.	123.	123.	123.	123.	124.
124.	124.	124.	124.	124.	124.	124.	124.	124.	124.
124.	124.	124.	124.	124.	124.	124.	125.	125.	125.
125.	125.	125.	125.	125.	125.	125.	125.	126.	126.
126.	126.	126.	126.	126.	126.	127.	127.	127.	127.
127.	128.	128.	128.	128.	129.	129.	129.	129.	129.
130.	130.	130.	130.	131.	131.	131.	131.	132.	132.
132.	133.	133.	133.	134.	134.	134.	135.	135.	135.
136.	136.	137.	137.	138.	138.	139.	140.	141.	142.
143.	143.	144.	144.	145.	145.	145.	146.	146.	146.
147.	147.	148.	149.	149.	150.	151.	152.	153.	154.
155.	156.	157.	158.	159.	160.	161.	162.	163.	164.
164.	165.	166.	166.	167.	167.	168.	168.	168.	169.
169.	169.	169.	169.	169.	169.	169.	169.	168.	168.
168.	167.	167.	167.	166.	166.	166.	165.	165.	164.
164.	163.	163.	162.	162.	162.	161.	161.	160.	160.
159.	159.	158.	158.	158.	157.	157.	156.	156.	155.
155.	155.	154.	154.	153.	153.	152.	152.	152.	151.
151.	150.	150.	150.	149.	149.	149.	148.	148.	147.
147.	147.	146.	146.	146.	145.	145.	145.	144.	144.

STAGE

762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.6	762.6	762.6	762.6	762.6	762.6	762.6
762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6
762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6
762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.7	762.7
762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7
762.7	762.7	762.7	762.7	762.8	762.8	762.8	762.8	762.8	762.8
762.8	762.8	762.8	762.9	762.9	762.9	762.9	762.9	762.9	762.9
762.9	763.0	763.0	763.0	763.0	763.0	763.0	763.0	763.1	763.1

763.1	763.1	763.1	763.1	763.2	763.2	763.2	763.2	763.3	763.3
763.3	763.3	763.3	763.4	763.4	763.4	763.5	763.5	763.6	763.6
763.7	763.7	763.7	763.7	763.8	763.8	763.8	763.8	763.8	763.9
763.9	763.9	763.9	764.0	764.0	764.1	764.1	764.1	764.2	764.2
764.3	764.3	764.4	764.5	764.5	764.6	764.6	764.7	764.7	764.8
764.8	764.8	764.9	764.9	764.9	764.9	765.0	765.0	765.0	765.0
765.0	765.0	765.0	765.0	765.0	765.0	765.0	765.0	765.0	765.0
765.0	764.9	764.9	764.9	764.9	764.9	764.9	764.8	764.8	764.8
764.8	764.7	764.7	764.7	764.7	764.6	764.6	764.6	764.6	764.6
764.5	764.5	764.5	764.5	764.4	764.4	764.4	764.4	764.4	764.3
764.3	764.3	764.3	764.3	764.2	764.2	764.2	764.2	764.1	764.1
764.1	764.1	764.1	764.0	764.0	764.0	764.0	764.0	763.9	763.9
763.9	763.9	763.9	763.8	763.8	763.8	763.8	763.8	763.8	763.7

PEAK OUTFLOW IS 269. AT TIME 19.50 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	269.	214.	76.	73.	21946.
CMS	8.	6.	2.	2.	621.
INCHES		.50	.71	.71	.71
MM		12.69	18.05	18.05	18.05
AC-FT		106.	151.	151.	151.
THOUS CU M		131.	186.	186.	186.

STATION DAM 4, PLAN 1, RATIO 4

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	2.	2.	2.
2.	2.	2.	3.	3.	3.	3.	3.	3.	3.
4.	4.	4.	4.	4.	4.	5.	5.	5.	5.
5.	6.	6.	6.	6.	6.	7.	7.	7.	7.
7.	8.	8.	8.	8.	9.	9.	9.	9.	10.
10.	10.	11.	11.	11.	12.	12.	13.	13.	14.
14.	15.	15.	16.	16.	17.	18.	18.	19.	19.
20.	21.	21.	22.	22.	23.	24.	25.	26.	27.
28.	29.	30.	31.	32.	33.	34.	35.	36.	37.
38.	39.	40.	41.	42.	43.	44.	46.	47.	48.
49.	52.	54.	57.	60.	63.	66.	69.	71.	74.
77.	80.	83.	86.	89.	93.	99.	106.	115.	123.
129.	133.	138.	141.	145.	148.	152.	157.	161.	166.
172.	179.	186.	193.	201.	212.	224.	236.	247.	259.
270.	282.	293.	304.	315.	328.	345.	367.	395.	441.
502.	577.	663.	756.	849.	919.	954.	966.	961.	945.
922.	895.	865.	834.	803.	772.	742.	712.	684.	656.

763.1	763.1	763.1	763.2	763.2	763.2	763.2	763.2	763.3	763.3
763.3	763.3	763.4	763.4	763.4	763.4	763.4	763.5	763.5	763.5
763.5	763.6	763.6	763.6	763.6	763.7	763.7	763.7	763.7	763.8
763.8	763.8	763.8	763.9	763.9	763.9	764.0	764.1	764.2	764.3
764.3	764.4	764.4	764.5	764.5	764.6	764.6	764.7	764.8	764.8
764.9	765.0	765.0	765.1	765.2	765.3	765.4	765.5	765.7	765.9
766.1	766.4	766.8	767.2	767.7	768.1	768.5	768.7	768.8	768.8
768.8	768.7	768.6	768.5	768.4	768.3	768.2	768.1	768.0	767.9
767.7	767.6	767.5	767.4	767.3	767.2	767.1	767.0	766.9	766.8
766.7	766.6	766.5	766.4	766.3	766.3	766.2	766.1	766.0	765.9
765.8	765.8	765.7	765.6	765.6	765.5	765.4	765.3	765.3	765.2
765.2	765.1	765.0	765.0	764.9	764.9	764.8	764.8	764.7	764.7
764.6	764.6	764.5	764.5	764.4	764.4	764.4	764.3	764.3	764.2
764.2	764.2	764.1	764.1	764.1	764.0	764.0	764.0	764.0	763.9
763.9	763.9	763.8	763.8	763.8	763.8	763.7	763.7	763.7	763.7

PEAK OUTFLOW IS 1073. AT TIME 18.33 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1073.	554.	173.	166.	49699.
CMS	30.	16.	5.	5.	1407.
INCHES		1.29	1.61	1.61	1.61
MM		32.79	40.89	40.89	40.89
AC-FT		275.	342.	342.	342.
THOUS CU M		339.	422.	422.	422.

STATION DAM 4, PLAN 1, RATIO 6

BEGIN DAM FAILURE AT 13.83 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	1.	1.	1.	1.	1.	1.	1.	1.	2.
2.	2.	2.	2.	3.	3.	3.	3.	3.	3.
4.	4.	4.	4.	5.	5.	5.	5.	5.	6.
6.	6.	6.	7.	7.	7.	7.	8.	8.	8.
9.	9.	9.	9.	10.	10.	10.	11.	11.	11.
12.	12.	13.	13.	14.	16.	18.	20.	22.	24.
26.	28.	30.	32.	34.	37.	39.	41.	44.	46.
49.	52.	57.	63.	68.	73.	79.	84.	90.	96.
102.	108.	114.	121.	128.	136.	145.	155.	165.	176.
188.	201.	219.	237.	255.	274.	294.	316.	342.	373.
415.	477.	550.	636.	734.	842.	952.	1041.	1096.	1127.
1142.	1146.	1143.	1135.	1125.	1113.	1101.	1089.	1077.	1066.
1056.	1046.	1036.	1028.	1020.	1015.	1014.	1017.	1021.	1026.
1031.	1038.	1045.	1053.	1061.	1070.	1080.	1092.	1107.	1126.
1149.	1179.	1224.	1294.	1376.	1466.	1824.	2182.	2593.	2921.
3145.	3391.	3674.	4035.	4645.	5288.	5968.	6609.	5987.	5492.
5110.	4815.	4577.	4401.	4264.	4229.	4276.	4446.	4673.	4839.
4915.	4929.	4912.	4884.	4855.	4837.	4832.	4844.	4873.	4922.

4993.	5086.	5202.	5349.	5516.	5686.	5847.	5992.	6120.	6230.
6322.	6395.	6450.	6488.	6508.	6513.	6499.	6461.	6395.	6308.
6206.	6095.	5977.	5852.	5723.	5591.	5458.	5326.	5200.	5079.
4957.	4835.	4712.	4590.	4468.	4352.	4232.	4107.	3977.	3842.
3712.	3582.	3447.	3322.	3198.	3072.	2944.	2817.	2690.	2565.
2443.	2322.	2203.	2088.	1976.	1868.	1765.	1666.	1572.	1484.
1400.	1322.	1248.	1180.	1116.	1056.	1001.	949.	901.	857.
816.	778.	743.	711.	681.	653.	628.	604.	582.	562.
544.	527.	511.	496.	483.	470.	458.	446.	434.	422.
409.	395.	383.	371.	360.	351.	342.	334.	326.	319.

STORAGE

122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	123.	123.	123.	123.	123.	123.	123.	123.	123.
123.	123.	123.	123.	123.	123.	123.	123.	124.	124.
124.	124.	124.	124.	124.	124.	124.	124.	124.	124.
124.	124.	125.	125.	125.	125.	125.	125.	125.	125.
125.	125.	126.	126.	126.	126.	127.	128.	128.	129.
129.	130.	131.	131.	132.	133.	133.	134.	135.	135.
136.	137.	138.	138.	139.	140.	141.	142.	143.	144.
145.	145.	146.	148.	149.	150.	151.	153.	155.	156.
158.	160.	163.	165.	167.	170.	172.	175.	178.	182.
187.	193.	201.	209.	220.	231.	243.	254.	260.	264.
266.	266.	266.	265.	264.	262.	261.	259.	258.	257.
255.	254.	253.	252.	251.	251.	251.	251.	251.	252.
253.	253.	254.	255.	256.	257.	258.	260.	261.	264.
266.	270.	274.	280.	286.	293.	299.	305.	308.	309.
307.	304.	298.	291.	281.	267.	250.	229.	209.	193.
181.	171.	163.	157.	153.	151.	153.	159.	166.	172.
174.	175.	174.	173.	173.	172.	172.	172.	173.	175.
177.	180.	184.	189.	194.	199.	204.	209.	213.	217.
220.	222.	224.	225.	226.	226.	225.	224.	222.	219.
216.	212.	208.	205.	200.	196.	192.	188.	184.	180.
176.	172.	168.	164.	160.	156.	151.	147.	143.	138.
133.	128.	123.	118.	113.	107.	102.	96.	91.	86.
81.	76.	71.	66.	62.	57.	53.	50.	46.	43.
40.	37.	35.	32.	30.	28.	26.	24.	23.	21.
20.	19.	18.	17.	16.	15.	14.	14.	13.	13.
12.	12.	11.	11.	10.	10.	10.	9.	9.	9.
8.	8.	8.	7.	7.	7.	6.	6.	6.	6.

STAGE

762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.6	762.6	762.6
762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6
762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6
762.6	762.6	762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.7
762.7	762.7	762.7	762.7	762.7	762.8	762.8	762.8	762.9	762.9
762.9	763.0	763.0	763.0	763.1	763.1	763.1	763.2	763.2	763.3
763.3	763.3	763.4	763.4	763.5	763.5	763.6	763.6	763.7	763.7
763.8	763.8	763.9	763.9	764.0	764.1	764.1	764.2	764.3	764.4
764.5	764.6	764.7	764.8	764.9	765.0	765.2	765.3	765.5	765.7

765.9	766.2	766.5	766.9	767.3	767.8	768.3	768.7	768.9	769.1
769.1	769.2	769.1	769.1	769.1	769.0	769.0	768.9	768.9	768.8
768.8	768.7	768.7	768.6	768.6	768.6	768.6	768.6	768.6	768.6
768.6	768.7	768.7	768.7	768.8	768.8	768.9	768.9	769.0	769.1
769.2	769.3	769.5	769.7	769.9	770.1	770.4	770.6	770.7	770.7
770.6	770.5	770.3	770.1	769.7	769.2	768.5	767.7	766.9	766.2
765.6	765.1	764.7	764.4	764.2	764.1	764.2	764.5	764.9	765.2
765.3	765.3	765.3	765.2	765.2	765.2	765.2	765.2	765.2	765.3
765.4	765.6	765.7	766.0	766.2	766.4	766.7	766.9	767.0	767.2
767.3	767.4	767.5	767.5	767.6	767.6	767.6	767.5	767.4	767.3
767.2	767.0	766.8	766.7	766.5	766.3	766.1	765.9	765.7	765.5
765.4	765.2	765.0	764.8	764.6	764.3	764.1	763.9	763.7	763.4
763.1	762.9	762.6	762.3	761.9	761.6	761.3	760.9	760.5	760.2
759.8	759.4	759.1	758.7	758.3	757.9	757.6	757.2	756.8	756.5
756.2	755.8	755.5	755.2	754.9	754.7	754.4	754.2	753.9	753.7
753.5	753.3	753.1	752.9	752.7	752.6	752.4	752.3	752.1	752.0
751.9	751.8	751.7	751.6	751.5	751.4	751.3	751.2	751.2	751.1
751.0	750.9	750.8	750.7	750.6	750.5	750.5	750.4	750.3	750.3

PEAK OUTFLOW IS 6609. AT TIME 14.83 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	6609.	5155.	1747.	1677.	503100.
CMS	187.	146.	49.	47.	14246.
INCHES		12.02	16.29	16.29	16.29
MM		305.37	413.89	413.89	413.89
AC-FT		2556.	3465.	3465.	3465.
THOUS CU M		3153.	4274.	4274.	4274.

THE DAM BREACH HYDROGRAPH WAS DEVELOPED USING A TIME INTERVAL OF .021 HOURS DURING BREACH FORMATION.
DOWNSTREAM CALCULATIONS WILL USE A TIME INTERVAL OF .083 HOURS.
THIS TABLE COMPARES THE HYDROGRAPH FOR DOWNSTREAM CALCULATIONS WITH THE COMPUTED BREACH HYDROGRAPH.
INTERMEDIATE FLOWS ARE INTERPOLATED FROM END-OF-PERIOD VALUES.

TIME (HOURS)	TIME FROM BEGINNING OF BREACH (HOURS)	INTERPOLATED BREACH HYDROGRAPH (CFS)	-	COMPUTED BREACH HYDROGRAPH (CFS)	=	ERROR (CFS)	ACCUMULATED ERROR (CFS)	ACCUMULATED ERROR (AC-FT)
13.833	.000	1466.		1466.		0.	0.	0.
13.854	.021	1556.		1550.		6.	6.	0.
13.875	.042	1645.		1643.		2.	8.	0.
13.896	.063	1735.		1734.		1.	9.	0.
13.917	.083	1824.		1824.		0.	9.	0.
13.937	.104	1914.		1914.		-0.	9.	0.
13.958	.125	2003.		2003.		-0.	9.	0.
13.979	.146	2093.		2093.		0.	9.	0.
14.000	.167	2182.		2182.		0.	9.	0.
14.021	.187	2285.		2272.		13.	22.	0.
14.042	.208	2388.		2378.		9.	31.	0.
14.063	.229	2491.		2488.		3.	33.	0.
14.083	.250	2593.		2593.		0.	33.	0.

FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:32:58 CASE PPF

STATION DAM 4, PLAN 1, RATIO 7

BEGIN DAM FAILURE AT 9.67 HOURS

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	1.	2.	2.	2.	2.	3.	3.	3.
4.	4.	4.	5.	5.	5.	6.	6.	7.	7.
7.	8.	8.	9.	9.	10.	10.	10.	11.	11.
12.	12.	13.	13.	14.	14.	15.	15.	16.	16.
17.	18.	18.	19.	19.	20.	21.	22.	23.	23.
24.	25.	27.	28.	31.	34.	38.	42.	46.	51.
60.	68.	76.	85.	93.	101.	109.	118.	126.	135.
143.	152.	160.	169.	179.	190.	203.	221.	241.	262.
285.	310.	337.	368.	406.	463.	527.	601.	685.	780.
887.	1006.	1132.	1264.	1383.	1462.	1630.	1764.	1886.	2021.
2248.	2594.	2987.	3447.	3951.	4450.	4916.	5316.	4621.	4075.
3645.	3324.	3078.	2868.	2691.	2541.	2416.	2313.	2232.	2173.
2138.	2126.	2140.	2178.	2238.	2323.	2432.	2555.	2659.	2728.
2778.	2822.	2866.	2913.	2959.	2999.	3034.	3068.	3103.	3140.
3179.	3220.	3265.	3314.	3367.	3428.	3501.	3579.	3664.	3759.
3873.	4000.	4131.	4262.	4392.	4525.	4663.	4798.	4933.	5069.
5204.	5344.	5493.	5668.	5886.	6180.	6640.	7306.	8034.	8721.
9455.	9782.	9877.	9898.	9937.	10032.	10196.	10420.	10694.	11006.
11347.	11686.	12034.	12402.	12703.	12937.	13106.	13228.	13314.	13369.
13396.	13394.	13362.	13297.	13201.	13079.	12919.	12681.	12363.	12014.
11714.	11409.	11091.	10764.	10434.	10103.	9777.	9462.	9227.	8955.
8673.	8496.	8322.	8123.	7907.	7705.	7489.	7260.	7023.	6781.
6535.	6290.	6048.	5814.	5589.	5372.	5169.	4982.	4799.	4618.
4440.	4269.	4095.	3917.	3743.	3581.	3418.	3276.	3135.	2996.
2860.	2728.	2600.	2478.	2361.	2248.	2141.	2038.	1941.	1849.
1763.	1681.	1605.	1533.	1466.	1404.	1346.	1292.	1241.	1195.
1152.	1112.	1076.	1042.	1010.	981.	953.	927.	900.	874.
846.	817.	790.	765.	742.	721.	702.	684.	667.	651.

STORAGE

122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	122.	122.	122.	122.	122.
122.	122.	122.	122.	122.	123.	123.	123.	123.	123.
123.	123.	123.	123.	123.	123.	124.	124.	124.	124.
124.	124.	124.	124.	125.	125.	125.	125.	125.	125.
125.	125.	126.	126.	126.	126.	126.	126.	126.	127.
127.	127.	127.	127.	127.	128.	128.	128.	128.	129.
129.	129.	130.	130.	131.	132.	133.	134.	135.	137.
138.	139.	141.	142.	143.	144.	146.	147.	148.	150.
151.	152.	154.	155.	157.	159.	161.	163.	165.	168.
171.	174.	178.	182.	186.	192.	198.	206.	214.	225.
236.	250.	264.	277.	286.	292.	296.	297.	296.	294.
291.	285.	277.	266.	251.	233.	212.	188.	165.	146.
131.	118.	107.	99.	91.	85.	79.	75.	72.	69.
68.	68.	68.	70.	72.	74.	80.	85.	90.	93.

95.	97.	98.	100.	102.	104.	106.	107.	109.	110.
112.	114.	116.	118.	120.	122.	125.	128.	131.	135.
139.	143.	148.	152.	157.	162.	166.	171.	175.	180.
184.	189.	193.	199.	206.	215.	230.	252.	276.	294.
305.	308.	309.	310.	310.	311.	313.	315.	318.	321.
325.	329.	332.	335.	338.	340.	342.	343.	343.	344.
344.	344.	344.	343.	342.	341.	340.	338.	335.	332.
329.	326.	322.	319.	315.	312.	308.	305.	301.	298.
294.	289.	284.	278.	272.	265.	258.	250.	242.	234.
226.	219.	211.	203.	196.	190.	183.	177.	171.	165.
159.	153.	147.	141.	134.	128.	122.	116.	110.	104.
99.	93.	87.	82.	77.	72.	68.	64.	60.	57.
53.	50.	47.	45.	42.	40.	38.	36.	34.	33.
31.	30.	29.	27.	26.	25.	25.	24.	23.	22.
21.	20.	19.	19.	18.	17.	17.	16.	16.	15.

STAGE

762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5
762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.5	762.6
762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6
762.6	762.6	762.6	762.6	762.7	762.7	762.7	762.7	762.7	762.7
762.7	762.7	762.7	762.7	762.7	762.7	762.7	762.8	762.8	762.8
762.8	762.8	762.8	762.8	762.8	762.8	762.8	762.9	762.9	762.9
762.9	762.9	762.9	763.0	763.0	763.1	763.1	763.2	763.3	763.3
763.4	763.5	763.6	763.6	763.7	763.8	763.8	763.9	764.0	764.0
764.1	764.2	764.3	764.3	764.4	764.5	764.6	764.7	764.8	765.0
765.1	765.3	765.4	765.6	765.8	766.1	766.4	766.7	767.1	767.5
768.0	768.5	769.1	769.6	769.9	770.1	770.2	770.3	770.3	770.2
770.1	769.9	769.6	769.2	768.6	767.9	767.0	765.9	764.8	763.8
763.0	762.3	761.6	761.0	760.5	760.1	759.7	759.4	759.1	759.0
758.8	758.8	758.6	759.0	759.2	759.4	759.8	760.1	760.4	760.6
760.8	760.9	761.0	761.2	761.3	761.4	761.5	761.6	761.7	761.8
761.9	762.0	762.1	762.2	762.4	762.5	762.7	762.9	763.0	763.2
763.5	763.7	763.9	764.2	764.4	764.7	764.9	765.1	765.3	765.5
765.7	766.0	766.2	766.4	766.7	767.1	767.7	768.6	769.5	770.2
770.5	770.7	770.7	770.7	770.7	770.8	770.8	770.9	771.0	771.1
771.2	771.4	771.5	771.6	771.7	771.7	771.8	771.8	771.8	771.8
771.9	771.9	771.8	771.8	771.8	771.8	771.7	771.7	771.6	771.5
771.4	771.3	771.1	771.0	770.9	770.8	770.7	770.6	770.4	770.3
770.2	770.0	769.8	769.6	769.4	769.1	768.9	768.6	768.2	767.9
767.6	767.3	766.9	766.6	766.3	766.0	765.7	765.4	765.1	764.8
764.5	764.2	763.9	763.6	763.2	762.9	762.5	762.1	761.8	761.4
761.0	760.6	760.3	759.9	759.6	759.2	758.8	758.5	758.2	757.9
757.6	757.3	757.0	756.7	756.4	756.2	755.9	755.7	755.5	755.3
755.1	754.9	754.8	754.6	754.5	754.3	754.2	754.0	753.9	753.8
753.6	753.5	753.3	753.2	753.1	753.0	752.8	752.7	752.6	752.6

PEAK OUTFLOW IS 13396. AT TIME 17.58 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	13396.	9273.	3369.	3234.	970229.
CMS	379.	263.	95.	92.	27474.
INCHES		21.62	31.42	31.42	31.42
MM		549.27	798.18	798.18	798.18

SUB-AREA RUNOFF COMPUTATION

INFLOW TO I-70 EMBANKMENT

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
AREA 5		0	0	0	0	3	1	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	2	.81	.00	.81	1.00	.000	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
.00	24.80	101.00	120.00	130.00	.00	.00	.00

LOSS DATA

LROPT	STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0	.00	.00	1.00	.00	.00	1.00	-1.00	-86.00	.00	.00

CURVE NO = -86.00 WETNESS = -1.00 EFFECT CN = 86.00

UNIT HYDROGRAPH DATA

TC= .00 LAG= .69

RECESSION DATA

STRTQ= .00 QRCSN= .00 RTIOR= 1.00

UNIT HYDROGRAPH 44 END OF PERIOD ORDINATES, TC= .00 HOURS, LAG= .69 VOL= 1.00

21.	66.	127.	211.	318.	420.	492.	529.	532.	518.
479.	434.	377.	308.	246.	204.	169.	142.	120.	100.
82.	69.	57.	48.	39.	33.	27.	22.	19.	16.
13.	11.	9.	7.	6.	5.	5.	4.	3.	3.
2.	1.	1.	0.						

Q

END-OF-PERIOD FLOW

MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q	MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q
1.01	.05	1	.01	.00	.01	0.	1.01	12.35	151	.21	.20	.01	614.
1.01	.10	2	.01	.00	.01	0.	1.01	12.40	152	.21	.20	.01	687.
1.01	.15	3	.01	.00	.01	0.	1.01	12.45	153	.21	.20	.01	761.
1.01	.20	4	.01	.00	.01	0.	1.01	12.50	154	.21	.20	.01	833.
1.01	.25	5	.01	.00	.01	0.	1.01	12.55	155	.21	.20	.01	900.
1.01	.30	6	.01	.00	.01	0.	1.01	13.00	156	.21	.20	.01	960.
1.01	.35	7	.01	.00	.01	0.	1.01	13.05	157	.25	.24	.01	1015.
1.01	.40	8	.01	.00	.01	0.	1.01	13.10	158	.25	.24	.01	1061.
1.01	.45	9	.01	.00	.01	0.	1.01	13.15	159	.25	.24	.01	1102.
1.01	.50	10	.01	.00	.01	0.	1.01	13.20	160	.25	.24	.01	1140.
1.01	.55	11	.01	.00	.01	0.	1.01	13.25	161	.25	.24	.01	1178.
1.01	1.00	12	.01	.00	.01	0.	1.01	13.30	162	.25	.24	.01	1217.
1.01	1.05	13	.01	.00	.01	0.	1.01	13.35	163	.25	.25	.01	1255.
1.01	1.10	14	.01	.00	.01	0.	1.01	13.40	164	.25	.25	.01	1292.
1.01	1.15	15	.01	.00	.01	0.	1.01	13.45	165	.25	.25	.00	1327.
1.01	1.20	16	.01	.00	.01	0.	1.01	13.50	166	.25	.25	.00	1359.
1.01	1.25	17	.01	.00	.01	0.	1.01	13.55	167	.25	.25	.00	1388.
1.01	1.30	18	.01	.00	.01	0.	1.01	14.00	168	.25	.25	.00	1414.

1.01	1.35	19	.01	.00	.01	0.	1.01	14.05	169	.31	.31	.01	1438.
1.01	1.40	20	.01	.00	.01	0.	1.01	14.10	170	.31	.31	.00	1461.
1.01	1.45	21	.01	.00	.01	0.	1.01	14.15	171	.31	.31	.00	1484.
1.01	1.50	22	.01	.00	.01	0.	1.01	14.20	172	.31	.31	.00	1510.
1.01	1.55	23	.01	.00	.01	0.	1.01	14.25	173	.31	.31	.00	1541.
1.01	2.00	24	.01	.00	.01	0.	1.01	14.30	174	.31	.31	.00	1576.
1.01	2.05	25	.01	.00	.01	0.	1.01	14.35	175	.31	.31	.00	1614.
1.01	2.10	26	.01	.00	.01	0.	1.01	14.40	176	.31	.31	.00	1654.
1.01	2.15	27	.01	.00	.01	0.	1.01	14.45	177	.31	.31	.00	1693.
1.01	2.20	28	.01	.00	.01	0.	1.01	14.50	178	.31	.31	.00	1730.
1.01	2.25	29	.01	.00	.01	0.	1.01	14.55	179	.31	.31	.00	1764.
1.01	2.30	30	.01	.00	.01	1.	1.01	15.00	180	.31	.31	.00	1794.
1.01	2.35	31	.01	.00	.01	1.	1.01	15.05	181	.19	.19	.00	1819.
1.01	2.40	32	.01	.00	.01	1.	1.01	15.10	182	.38	.38	.00	1837.
1.01	2.45	33	.01	.00	.01	2.	1.01	15.15	183	.38	.38	.00	1852.
1.01	2.50	34	.01	.00	.01	3.	1.01	15.20	184	.57	.57	.00	1869.
1.01	2.55	35	.01	.00	.01	3.	1.01	15.25	185	.67	.66	.01	1897.
1.01	3.00	36	.01	.00	.01	4.	1.01	15.30	186	1.62	1.61	.01	1966.
1.01	3.05	37	.01	.00	.01	5.	1.01	15.35	187	2.67	2.65	.02	2131.
1.01	3.10	38	.01	.00	.01	6.	1.01	15.40	188	1.05	1.04	.01	2402.
1.01	3.15	39	.01	.00	.01	7.	1.01	15.45	189	.67	.66	.00	2770.
1.01	3.20	40	.01	.00	.01	8.	1.01	15.50	190	.57	.57	.00	3235.
1.01	3.25	41	.01	.00	.01	9.	1.01	15.55	191	.38	.38	.00	3757.
1.01	3.30	42	.01	.00	.01	10.	1.01	16.00	192	.38	.38	.00	4237.
1.01	3.35	43	.01	.00	.01	11.	1.01	16.05	193	.29	.29	.00	4596.
1.01	3.40	44	.01	.00	.01	12.	1.01	16.10	194	.29	.29	.00	4800.
1.01	3.45	45	.01	.00	.01	14.	1.01	16.15	195	.29	.29	.00	4856.
1.01	3.50	46	.01	.00	.01	15.	1.01	16.20	196	.29	.29	.00	4783.
1.01	3.55	47	.01	.00	.01	16.	1.01	16.25	197	.29	.29	.00	4601.
1.01	4.00	48	.01	.00	.01	17.	1.01	16.30	198	.29	.29	.00	4348.
1.01	4.05	49	.01	.00	.01	18.	1.01	16.35	199	.29	.29	.00	4036.
1.01	4.10	50	.01	.00	.01	19.	1.01	16.40	200	.29	.29	.00	3692.
1.01	4.15	51	.01	.00	.01	20.	1.01	16.45	201	.29	.29	.00	3377.
1.01	4.20	52	.01	.00	.01	21.	1.01	16.50	202	.29	.29	.00	3118.
1.01	4.25	53	.01	.00	.01	22.	1.01	16.55	203	.29	.29	.00	2902.
1.01	4.30	54	.01	.00	.01	22.	1.01	17.00	204	.29	.29	.00	2724.
1.01	4.35	55	.01	.01	.01	23.	1.01	17.05	205	.23	.23	.00	2576.
1.01	4.40	56	.01	.01	.01	24.	1.01	17.10	206	.23	.23	.00	2447.
1.01	4.45	57	.01	.01	.01	25.	1.01	17.15	207	.23	.23	.00	2333.
1.01	4.50	58	.01	.01	.01	26.	1.01	17.20	208	.23	.23	.00	2234.
1.01	4.55	59	.01	.01	.01	27.	1.01	17.25	209	.23	.23	.00	2142.
1.01	5.00	60	.01	.01	.01	28.	1.01	17.30	210	.23	.23	.00	2057.
1.01	5.05	61	.01	.01	.01	29.	1.01	17.35	211	.23	.23	.00	1975.
1.01	5.10	62	.01	.01	.01	29.	1.01	17.40	212	.23	.23	.00	1901.
1.01	5.15	63	.01	.01	.01	30.	1.01	17.45	213	.23	.23	.00	1833.
1.01	5.20	64	.01	.01	.01	31.	1.01	17.50	214	.23	.23	.00	1772.
1.01	5.25	65	.01	.01	.01	32.	1.01	17.55	215	.23	.23	.00	1719.
1.01	5.30	66	.01	.01	.01	32.	1.01	18.00	216	.23	.23	.00	1672.
1.01	5.35	67	.01	.01	.01	33.	1.01	18.05	217	.02	.02	.00	1628.
1.01	5.40	68	.01	.01	.01	34.	1.01	18.10	218	.02	.02	.00	1581.
1.01	5.45	69	.01	.01	.01	34.	1.01	18.15	219	.02	.02	.00	1528.
1.01	5.50	70	.01	.01	.01	35.	1.01	18.20	220	.02	.02	.00	1462.
1.01	5.55	71	.01	.01	.01	36.	1.01	18.25	221	.02	.02	.00	1378.
1.01	6.00	72	.01	.01	.01	36.	1.01	18.30	222	.02	.02	.00	1276.
1.01	6.05	73	.07	.03	.03	38.	1.01	18.35	223	.02	.02	.00	1161.
1.01	6.10	74	.07	.04	.03	40.	1.01	18.40	224	.02	.02	.00	1040.

1.01	6.15	75	.07	.04	.03	44.	1.01	18.45	225	.02	.02	.00	919.
1.01	6.20	76	.07	.04	.03	51.	1.01	18.50	226	.02	.02	.00	803.
1.01	6.25	77	.07	.04	.03	60.	1.01	18.55	227	.02	.02	.00	696.
1.01	6.30	78	.07	.04	.02	73.	1.01	19.00	228	.02	.02	.00	599.
1.01	6.35	79	.07	.04	.02	89.	1.01	19.05	229	.02	.02	.00	515.
1.01	6.40	80	.07	.04	.02	106.	1.01	19.10	230	.02	.02	.00	446.
1.01	6.45	81	.07	.04	.02	123.	1.01	19.15	231	.02	.02	.00	392.
1.01	6.50	82	.07	.05	.02	141.	1.01	19.20	232	.02	.02	.00	347.
1.01	6.55	83	.07	.05	.02	159.	1.01	19.25	233	.02	.02	.00	311.
1.01	7.00	84	.07	.05	.02	176.	1.01	19.30	234	.02	.02	.00	280.
1.01	7.05	85	.07	.05	.02	191.	1.01	19.35	235	.02	.02	.00	254.
1.01	7.10	86	.07	.05	.02	205.	1.01	19.40	236	.02	.02	.00	233.
1.01	7.15	87	.07	.05	.02	218.	1.01	19.45	237	.02	.02	.00	215.
1.01	7.20	88	.07	.05	.02	229.	1.01	19.50	238	.02	.02	.00	200.
1.01	7.25	89	.07	.05	.02	239.	1.01	19.55	239	.02	.02	.00	188.
1.01	7.30	90	.07	.05	.01	249.	1.01	20.00	240	.02	.02	.00	178.
1.01	7.35	91	.07	.05	.01	258.	1.01	20.05	241	.02	.02	.00	169.
1.01	7.40	92	.07	.05	.01	266.	1.01	20.10	242	.02	.02	.00	162.
1.01	7.45	93	.07	.05	.01	273.	1.01	20.15	243	.02	.02	.00	157.
1.01	7.50	94	.07	.05	.01	280.	1.01	20.20	244	.02	.02	.00	152.
1.01	7.55	95	.07	.05	.01	286.	1.01	20.25	245	.02	.02	.00	148.
1.01	8.00	96	.07	.05	.01	292.	1.01	20.30	246	.02	.02	.00	144.
1.01	8.05	97	.07	.05	.01	297.	1.01	20.35	247	.02	.02	.00	142.
1.01	8.10	98	.07	.05	.01	303.	1.01	20.40	248	.02	.02	.00	139.
1.01	8.15	99	.07	.05	.01	307.	1.01	20.45	249	.02	.02	.00	137.
1.01	8.20	100	.07	.06	.01	312.	1.01	20.50	250	.02	.02	.00	136.
1.01	8.25	101	.07	.06	.01	316.	1.01	20.55	251	.02	.02	.00	135.
1.01	8.30	102	.07	.06	.01	320.	1.01	21.00	252	.02	.02	.00	134.
1.01	8.35	103	.07	.06	.01	323.	1.01	21.05	253	.02	.02	.00	133.
1.01	8.40	104	.07	.06	.01	327.	1.01	21.10	254	.02	.02	.00	132.
1.01	8.45	105	.07	.06	.01	330.	1.01	21.15	255	.02	.02	.00	131.
1.01	8.50	106	.07	.06	.01	333.	1.01	21.20	256	.02	.02	.00	131.
1.01	8.55	107	.07	.06	.01	336.	1.01	21.25	257	.02	.02	.00	130.
1.01	9.00	108	.07	.06	.01	338.	1.01	21.30	258	.02	.02	.00	130.
1.01	9.05	109	.07	.06	.01	341.	1.01	21.35	259	.02	.02	.00	130.
1.01	9.10	110	.07	.06	.01	343.	1.01	21.40	260	.02	.02	.00	130.
1.01	9.15	111	.07	.06	.01	346.	1.01	21.45	261	.02	.02	.00	130.
1.01	9.20	112	.07	.06	.01	348.	1.01	21.50	262	.02	.02	.00	130.
1.01	9.25	113	.07	.06	.01	350.	1.01	21.55	263	.02	.02	.00	130.
1.01	9.30	114	.07	.06	.01	352.	1.01	22.00	264	.02	.02	.00	130.
1.01	9.35	115	.07	.06	.01	354.	1.01	22.05	265	.02	.02	.00	130.
1.01	9.40	116	.07	.06	.01	355.	1.01	22.10	266	.02	.02	.00	130.
1.01	9.45	117	.07	.06	.01	357.	1.01	22.15	267	.02	.02	.00	130.
1.01	9.50	118	.07	.06	.01	359.	1.01	22.20	268	.02	.02	.00	130.
1.01	9.55	119	.07	.06	.01	360.	1.01	22.25	269	.02	.02	.00	130.
1.01	10.00	120	.07	.06	.01	362.	1.01	22.30	270	.02	.02	.00	130.
1.01	10.05	121	.07	.06	.01	363.	1.01	22.35	271	.02	.02	.00	130.
1.01	10.10	122	.07	.06	.01	364.	1.01	22.40	272	.02	.02	.00	130.
1.01	10.15	123	.07	.06	.01	366.	1.01	22.45	273	.02	.02	.00	130.
1.01	10.20	124	.07	.06	.01	367.	1.01	22.50	274	.02	.02	.00	130.
1.01	10.25	125	.07	.06	.01	368.	1.01	22.55	275	.02	.02	.00	130.
1.01	10.30	126	.07	.06	.01	369.	1.01	23.00	276	.02	.02	.00	130.
1.01	10.35	127	.07	.06	.01	370.	1.01	23.05	277	.02	.02	.00	130.
1.01	10.40	128	.07	.06	.00	371.	1.01	23.10	278	.02	.02	.00	130.
1.01	10.45	129	.07	.06	.00	372.	1.01	23.15	279	.02	.02	.00	130.
1.01	10.50	130	.07	.06	.00	373.	1.01	23.20	280	.02	.02	.00	130.

1.01	10.55	131	.07	.06	.00	374.	1.01	23.25	281	.02	.02	.00	130.
1.01	11.00	132	.07	.06	.00	375.	1.01	23.30	282	.02	.02	.00	130.
1.01	11.05	133	.07	.06	.00	376.	1.01	23.35	283	.02	.02	.00	130.
1.01	11.10	134	.07	.06	.00	377.	1.01	23.40	284	.02	.02	.00	130.
1.01	11.15	135	.07	.06	.00	378.	1.01	23.45	285	.02	.02	.00	130.
1.01	11.20	136	.07	.06	.00	379.	1.01	23.50	286	.02	.02	.00	130.
1.01	11.25	137	.07	.06	.00	379.	1.01	23.55	287	.02	.02	.00	130.
1.01	11.30	138	.07	.06	.00	380.	1.02	.00	288	.02	.02	.00	130.
1.01	11.35	139	.07	.06	.00	381.	1.02	.05	289	.00	.00	.00	129.
1.01	11.40	140	.07	.06	.00	381.	1.02	.10	290	.00	.00	.00	128.
1.01	11.45	141	.07	.06	.00	382.	1.02	.15	291	.00	.00	.00	125.
1.01	11.50	142	.07	.06	.00	383.	1.02	.20	292	.00	.00	.00	121.
1.01	11.55	143	.07	.06	.00	383.	1.02	.25	293	.00	.00	.00	114.
1.01	12.00	144	.07	.06	.00	384.	1.02	.30	294	.00	.00	.00	106.
1.01	12.05	145	.21	.20	.01	387.	1.02	.35	295	.00	.00	.00	96.
1.01	12.10	146	.21	.20	.01	397.	1.02	.40	296	.00	.00	.00	85.
1.01	12.15	147	.21	.20	.01	415.	1.02	.45	297	.00	.00	.00	74.
1.01	12.20	148	.21	.20	.01	444.	1.02	.50	298	.00	.00	.00	63.
1.01	12.25	149	.21	.20	.01	486.	1.02	.55	299	.00	.00	.00	53.
1.01	12.30	150	.21	.20	.01	546.	1.02	1.00	300	.00	.00	.00	44.
									SUM	32.24	30.37	1.87	190876.
										(819.)(771.)(48.)(5405.01)			

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	4856.	2096.	663.	636.	190845.
CMS	137.	59.	19.	18.	5404.
INCHES		23.98	30.33	30.33	30.33
MM		609.20	770.34	770.34	770.34
AC-FT		1039.	1314.	1314.	1314.
THOUS CU M		1282.	1621.	1621.	1621.

HYDROGRAPH AT STAAREA 5 FOR PLAN 1, RTIO 1

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	49.	21.	7.	6.	1908.
CMS	1.	1.	0.	0.	54.
INCHES		.24	.30	.30	.30
MM		6.09	7.70	7.70	7.70
AC-FT		10.	13.	13.	13.
THOUS CU M		13.	16.	16.	16.

HYDROGRAPH AT STAAREA 5 FOR PLAN 1, RTIO 2

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	97.	42.	13.	13.	3817.
CMS	3.	1.	0.	0.	108.
INCHES		.48	.61	.61	.61
MM		12.18	15.41	15.41	15.41
AC-FT		21.	26.	26.	26.
THOUS CU M		26.	32.	32.	32.

HYDROGRAPH AT STAAREA 5 FOR PLAN 1, RTIO 3

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	146.	63.	20.	19.	5725.
CMS	4.	2.	1.	1.	162.
INCHES		.72	.91	.91	.91
MM		18.28	23.11	23.11	23.11
AC-FT		31.	39.	39.	39.
THOUS CU M		38.	49.	49.	49.

HYDROGRAPH AT STAAREA 5 FOR PLAN 1, RTIO 4

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	194.	84.	27.	25.	7634.
CMS	5.	2.	1.	1.	216.
INCHES		.96	1.21	1.21	1.21
MM		24.37	30.81	30.81	30.81
AC-FT		42.	53.	53.	53.
THOUS CU M		51.	65.	65.	65.

HYDROGRAPH AT STAAREA 5 FOR PLAN 1, RTIO 5

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	243.	105.	33.	32.	9542.
CMS	7.	3.	1.	1.	270.
INCHES		1.20	1.52	1.52	1.52
MM		30.46	38.52	38.52	38.52
AC-FT		52.	66.	66.	66.
THOUS CU M		64.	81.	81.	81.

HYDROGRAPH AT STAAREA 5 FOR PLAN 1, RTIO 6

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2428.	1048.	331.	318.	95422.
CMS	69.	30.	9.	9.	2702.
INCHES		11.99	15.16	15.16	15.16
MM		304.60	385.17	385.17	385.17
AC-FT		520.	657.	657.	657.
THOUS CU M		641.	811.	811.	811.

HYDROGRAPH AT STAAREA 5 FOR PLAN 1, RTIO 7

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	4856.	2096.	663.	636.	190845.
CMS	137.	59.	19.	18.	5404.
INCHES		23.98	30.33	30.33	30.33

THOUS CU M 37. 65. 65. 65.

SUM OF 2 HYDROGRAPHS AT 5 PLAN 1 RTIO 2

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	2.	2.	2.	3.
3.	4.	4.	4.	5.	5.	5.	6.	6.	6.
6.	7.	7.	7.	7.	8.	8.	8.	8.	8.
8.	9.	9.	9.	9.	9.	9.	10.	10.	10.
10.	10.	10.	10.	11.	11.	11.	11.	11.	11.
12.	12.	12.	12.	12.	12.	12.	13.	13.	13.
13.	13.	13.	14.	14.	14.	14.	14.	14.	15.
15.	15.	15.	15.	15.	16.	16.	17.	18.	20.
21.	23.	25.	27.	28.	30.	31.	33.	34.	35.
36.	37.	39.	40.	41.	42.	43.	44.	45.	46.
47.	48.	50.	51.	52.	54.	55.	57.	58.	60.
61.	62.	63.	64.	66.	68.	72.	79.	88.	98.
111.	122.	130.	136.	139.	139.	137.	134.	130.	125.
121.	118.	116.	114.	113.	113.	113.	114.	114.	115.
116.	117.	118.	119.	121.	123.	125.	127.	128.	130.
131.	132.	132.	133.	133.	134.	134.	135.	136.	137.
139.	139.	141.	142.	144.	145.	146.	147.	149.	150.
150.	151.	152.	152.	153.	153.	153.	153.	153.	153.
152.	153.	152.	152.	151.	151.	150.	149.	149.	148.
147.	146.	145.	143.	142.	141.	140.	138.	137.	136.
134.	133.	131.	130.	128.	127.	125.	123.	122.	120.
118.	117.	115.	113.	112.	110.	108.	107.	105.	103.
101.	100.	98.	96.	94.	92.	90.	89.	87.	85.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	153.	138.	59.	56.	16911.
CMS	4.	4.	2.	2.	479.
INCHES		.27	.45	.45	.45
MM		6.80	11.56	11.56	11.56
AC-FT		69.	116.	116.	116.
THOUS CU M		85.	144.	144.	144.

SUM OF 2 HYDROGRAPHS AT 5 PLAN 1 RTIO 3

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	2.	2.	2.	2.

2.	2.	2.	2.	2.	2.	3.	3.	4.	4.
5.	5.	6.	7.	7.	8.	8.	9.	9.	9.
10.	10.	10.	11.	11.	11.	12.	12.	12.	12.
13.	13.	13.	13.	14.	14.	14.	14.	15.	15.
15.	15.	15.	16.	16.	16.	16.	17.	17.	17.
17.	17.	18.	18.	18.	18.	19.	19.	19.	19.
19.	20.	20.	20.	21.	21.	21.	22.	22.	22.
23.	23.	23.	24.	24.	25.	26.	27.	29.	31.
34.	37.	39.	42.	45.	47.	50.	52.	54.	55.
57.	59.	61.	63.	65.	67.	68.	70.	71.	73.
74.	76.	78.	80.	82.	84.	86.	89.	91.	93.
95.	96.	98.	100.	102.	106.	113.	124.	138.	156.
175.	194.	208.	219.	224.	225.	223.	218.	212.	205.
198.	194.	190.	188.	187.	186.	187.	188.	189.	191.
193.	195.	198.	202.	206.	210.	214.	219.	223.	228.
232.	235.	238.	240.	242.	244.	247.	252.	256.	260.
263.	265.	269.	269.	270.	271.	271.	271.	271.	270.
269.	268.	266.	264.	262.	260.	257.	254.	251.	248.
245.	242.	238.	235.	231.	229.	226.	223.	221.	218.
215.	213.	210.	208.	205.	202.	200.	197.	194.	192.
189.	186.	184.	181.	179.	176.	173.	171.	168.	166.
163.	160.	158.	155.	153.	150.	148.	145.	143.	140.
138.	135.	133.	130.	128.	125.	122.	120.	117.	115.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	271.	231.	93.	90.	26912.
CMS	8.	7.	3.	3.	762.
INCHES		.45	.72	.72	.72
MM		11.35	18.39	18.39	18.39
AC-FT		114.	185.	185.	185.
THOUS CU M		141.	229.	229.	229.

SUM OF 2 HYDROGRAPHS AT 5 PLAN 1 RTIO 4

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	3.	3.	3.	4.	5.	5.
6.	7.	8.	9.	9.	10.	11.	11.	12.	12.
13.	13.	14.	14.	15.	15.	15.	16.	16.	17.
17.	17.	18.	18.	18.	18.	19.	19.	19.	20.
20.	20.	21.	21.	21.	21.	22.	22.	22.	23.
23.	23.	23.	24.	24.	24.	25.	25.	26.	26.
26.	27.	27.	28.	28.	29.	29.	30.	30.	31.
32.	32.	33.	33.	34.	35.	36.	38.	41.	44.
47.	51.	55.	58.	62.	65.	68.	71.	73.	76.
78.	81.	83.	86.	88.	91.	93.	95.	97.	99.
101.	103.	106.	109.	112.	116.	119.	123.	127.	130.
134.	137.	140.	143.	147.	153.	162.	177.	196.	219.
245.	269.	288.	301.	308.	310.	307.	301.	293.	284.

CMS	30.	17.	6.	6.	1656.	
INCHES		1.17	1.57	1.57	1.57	
MM		29.72	39.97	39.97	39.97	
AC-FT		300.	403.	403.	403.	
THOUS CU M		369.	497.	497.	497.	

SUM OF 2 HYDROGRAPHS AT 5 PLAN 1 RTIO 6

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
1.	2.	2.	3.	3.	4.	4.	5.	6.	6.
7.	8.	9.	9.	10.	11.	11.	12.	13.	14.
14.	15.	16.	16.	17.	18.	18.	19.	20.	20.
21.	22.	22.	23.	24.	24.	25.	26.	26.	27.
28.	28.	29.	31.	33.	37.	43.	50.	59.	68.
78.	89.	99.	109.	119.	127.	135.	143.	150.	157.
163.	170.	176.	182.	188.	195.	201.	208.	214.	221.
228.	235.	241.	248.	255.	263.	270.	278.	287.	295.
305.	314.	325.	337.	350.	363.	378.	393.	413.	442.
474.	510.	553.	605.	666.	737.	817.	901.	983.	1056.
1123.	1184.	1227.	1256.	1275.	1285.	1289.	1288.	1284.	1278.
1271.	1263.	1254.	1246.	1239.	1236.	1238.	1248.	1268.	1297.
1332.	1371.	1412.	1453.	1492.	1529.	1564.	1596.	1626.	1657.
1691.	1728.	1771.	1823.	1886.	1960.	2080.	2272.	2522.	2809.
3127.	3438.	3741.	4057.	4438.	4910.	5507.	6144.	6548.	6591.
6454.	6242.	6011.	5793.	5611.	5491.	5476.	5593.	5841.	6188.
6565.	6895.	7129.	7257.	7289.	7247.	7148.	7018.	6868.	6714.
6590.	6513.	6477.	6483.	6527.	6600.	6692.	6792.	6891.	6983.
7065.	7134.	7191.	7235.	7265.	7281.	7282.	7263.	7220.	7147.
7044.	6916.	6766.	6602.	6430.	6253.	6075.	5899.	5729.	5568.
5417.	5271.	5130.	4992.	4856.	4724.	4595.	4467.	4337.	4210.
4090.	3965.	3837.	3708.	3580.	3453.	3326.	3198.	3070.	2943.
2817.	2692.	2569.	2448.	2329.	2218.	2120.	2022.	1924.	1828.
1735.	1646.	1560.	1479.	1402.	1329.	1261.	1197.	1137.	1081.
1029.	981.	943.	909.	875.	842.	810.	781.	752.	726.
701.	678.	656.	636.	617.	600.	584.	568.	553.	539.
524.	508.	491.	474.	456.	438.	422.	405.	390.	376.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	7289.	6058.	2071.	1988.	596517.
CMS	206.	172.	59.	56.	16891.
INCHES		11.74	16.05	16.05	16.05
MM		298.10	407.66	407.66	407.66
AC-FT		3004.	4108.	4108.	4108.
THOUS CU M		3706.	5067.	5067.	5067.

SUM OF 2 HYDROGRAPHS AT 5 PLAN 1 RTIO 7

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	1.	1.	1.	1.	1.	2.	2.

3.	4.	4.	5.	6.	8.	9.	10.	12.	13.
14.	16.	17.	19.	20.	21.	23.	24.	26.	27.
29.	30.	31.	33.	34.	35.	37.	38.	39.	41.
42.	43.	45.	46.	47.	49.	50.	51.	53.	54.
55.	57.	59.	62.	67.	75.	87.	101.	119.	139.
159.	181.	203.	225.	246.	266.	285.	303.	320.	336.
352.	367.	382.	397.	411.	425.	440.	454.	470.	487.
505.	524.	544.	575.	610.	648.	692.	743.	800.	865.
939.	1023.	1115.	1216.	1340.	1468.	1595.	1730.	1863.	1995.
2141.	2329.	2573.	2916.	3306.	3734.	4181.	4634.	4903.	4835.
4607.	4347.	4087.	3839.	3609.	3402.	3218.	3059.	2922.	2808.
2717.	2649.	2605.	2584.	2590.	2626.	2694.	2796.	2926.	3070.
3215.	3356.	3489.	3615.	3734.	3844.	3943.	4031.	4111.	4188.
4264.	4341.	4419.	4499.	4579.	4660.	4745.	4833.	4925.	5024.
5132.	5256.	5394.	5545.	5705.	5876.	6056.	6232.	6404.	6572.
6733.	6888.	7042.	7208.	7402.	7672.	8105.	8756.	9624.	10713.
11907.	13000.	13804.	14292.	14525.	14584.	14533.	14437.	14320.	14212.
14185.	14288.	14424.	14602.	14800.	14976.	15114.	15213.	15270.	15294.
15287.	15255.	15199.	15120.	15016.	14889.	14733.	14530.	14259.	13915.
13530.	13125.	12703.	12268.	11825.	11410.	11024.	10636.	10267.	9922.
9592.	9290.	9031.	8793.	8559.	8329.	8103.	7874.	7640.	7400.
7156.	6930.	6696.	6460.	6226.	5995.	5772.	5559.	5356.	5160.
4971.	4787.	4607.	4428.	4254.	4098.	3939.	3783.	3631.	3484.
3340.	3199.	3062.	2929.	2801.	2677.	2558.	2443.	2334.	2241.
2152.	2065.	1981.	1899.	1821.	1747.	1677.	1611.	1549.	1491.
1436.	1386.	1339.	1295.	1255.	1217.	1183.	1150.	1119.	1088.
1056.	1024.	995.	962.	929.	894.	861.	828.	798.	769.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	15294.	11025.	4020.	3859.	1157640.
CMS	433.	312.	114.	109.	32781.
INCHES		21.36	31.15	31.15	31.15
MM		542.47	791.12	791.12	791.12
AC-FT		5467.	7973.	7973.	7973.
THOUS CU M		6743.	9834.	9834.	9834.

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HYDROGRAPH ROUTING

ROUTING THROUGH I-70 EMBANKMENT

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
	DAM 5	1	0	0	0	0	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
.0	.000	.00	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	.000	.000	.000	-723.	-1

STAGE	723.00	724.00	725.00	730.00	735.00	738.00	750.00

FLOW	.00	32.00	101.00	841.00	2270.00	3504.00	3505.00
CAPACITY=	0.	26.	219.	673.			
ELEVATION=	723.	730.	740.	750.			

CREL	SPWID	COQW	EXPW	ELEVL	COQL	CAREA	EXPL
723.0	.0	.0	.0	.0	.0	.0	.0

DAM DATA

TOPEL	COQD	EXPD	DAMWID
738.0	.0	.0	0.

CREST LENGTH	0.	30.	310.	1390.
AT OR BELOW ELEVATION	737.9	738.0	740.0	750.0

STATION DAM 5, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	2.	2.	2.	2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.	3.	3.	3.	3.
3.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	4.	5.	5.	5.	5.	5.	5.	5.
5.	5.	5.	5.	5.	6.	6.	6.	6.	6.
6.	6.	6.	6.	6.	6.	7.	7.	7.	7.
7.	7.	8.	8.	8.	9.	9.	9.	10.	10.
11.	11.	12.	12.	12.	13.	13.	14.	14.	15.
15.	16.	16.	17.	17.	17.	18.	18.	19.	19.
20.	20.	21.	21.	22.	22.	23.	24.	25.	26.
27.	29.	30.	33.	37.	40.	43.	46.	48.	49.
50.	51.	51.	51.	51.	51.	51.	51.	51.	50.
50.	50.	50.	50.	50.	50.	50.	50.	51.	51.
51.	51.	51.	51.	51.	51.	51.	51.	51.	51.
51.	52.	52.	52.	52.	53.	53.	54.	54.	55.
56.	56.	57.	58.	58.	59.	60.	61.	61.	62.
62.	63.	64.	64.	65.	65.	65.	66.	66.	66.
66.	67.	67.	67.	67.	67.	67.	67.	66.	66.
66.	66.	65.	65.	65.	64.	64.	63.	63.	62.
62.	61.	61.	60.	60.	59.	58.	58.	57.	57.
56.	55.	55.	54.	54.	53.	52.	52.	51.	51.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3	725.3
725.3	725.2	725.2	725.2	725.2	725.2	725.2	725.2	725.2	725.2
725.2	725.1	725.1	725.1	725.1	725.1	725.1	725.1	725.1	725.1
725.0	725.0	725.0	725.0	725.0	725.0	725.0	725.0	724.9	724.9

PEAK OUTFLOW IS 153. AT TIME 21.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	153.	138.	55.	53.	15860.
CMS	4.	4.	2.	1.	449.
INCHES		.27	.43	.43	.43
MM		6.79	10.84	10.84	10.84
AC-FT		68.	109.	109.	109.
THOUS CU M		84.	135.	135.	135.

STATION DAM 5, PLAN 1, RATIO 3

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	2.	2.
2.	2.	2.	2.	3.	3.	3.	4.	4.	4.
4.	5.	5.	5.	6.	6.	6.	7.	7.	7.
8.	9.	8.	8.	9.	9.	9.	10.	10.	10.
10.	11.	11.	11.	11.	12.	12.	12.	12.	13.
13.	13.	13.	14.	14.	14.	14.	15.	15.	15.
15.	16.	16.	16.	16.	17.	17.	17.	17.	18.
18.	18.	18.	19.	19.	19.	20.	20.	21.	21.
22.	22.	23.	24.	25.	27.	28.	29.	30.	32.
34.	37.	40.	43.	45.	48.	50.	52.	54.	56.
59.	61.	62.	64.	66.	68.	70.	72.	74.	76.
79.	80.	82.	84.	86.	88.	91.	94.	99.	108.
122.	137.	152.	167.	180.	190.	198.	204.	206.	207.
206.	203.	201.	198.	195.	193.	192.	191.	190.	190.
190.	191.	193.	194.	197.	199.	202.	206.	209.	213.
217.	221.	225.	228.	231.	234.	237.	240.	243.	247.
250.	254.	257.	259.	262.	264.	266.	267.	268.	269.
269.	269.	268.	267.	266.	265.	264.	262.	260.	257.
255.	252.	249.	246.	243.	240.	237.	234.	231.	228.
226.	223.	220.	217.	215.	212.	209.	207.	204.	201.
199.	196.	194.	191.	188.	186.	183.	180.	178.	175.
173.	170.	167.	165.	162.	160.	157.	155.	152.	150.
147.	145.	142.	140.	137.	134.	132.	129.	127.	124.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	3.	3.	3.	4.	4.
4.	4.	4.	4.	4.	5.	5.	5.	5.	5.
5.	5.	5.	6.	6.	6.	6.	6.	6.	6.
6.	6.	7.	7.	7.	7.	7.	7.	7.	8.
8.	8.	9.	9.	10.	10.	10.	10.	10.	10.
10.	10.	10.	10.	10.	10.	10.	10.	10.	10.
10.	10.	10.	10.	10.	10.	10.	10.	10.	10.
10.	11.	11.	11.	11.	11.	11.	11.	11.	11.
11.	11.	11.	12.	12.	12.	12.	12.	12.	12.
12.	12.	12.	12.	12.	12.	12.	12.	12.	11.
11.	11.	11.	11.	11.	11.	11.	11.	11.	11.
11.	11.	11.	10.	10.	10.	10.	10.	10.	10.
10.	10.	10.	10.	10.	10.	10.	10.	9.	9.
9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
9.	9.	9.	8.	8.	8.	8.	8.	8.	8.

STAGE

723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.1
723.1	723.1	723.1	723.1	723.1	723.1	723.1	723.1	723.1	723.1
723.1	723.1	723.2	723.2	723.2	723.2	723.2	723.2	723.2	723.2
723.2	723.2	723.3	723.3	723.3	723.3	723.3	723.3	723.3	723.3
723.3	723.3	723.3	723.3	723.4	723.4	723.4	723.4	723.4	723.4
723.4	723.4	723.4	723.4	723.4	723.4	723.5	723.5	723.5	723.5
723.5	723.5	723.5	723.5	723.5	723.5	723.5	723.5	723.5	723.6
723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.6	723.7
723.7	723.7	723.7	723.8	723.8	723.8	723.9	723.9	724.0	724.0
724.0	724.1	724.1	724.2	724.2	724.2	724.3	724.3	724.3	724.4
724.4	724.4	724.4	724.5	724.5	724.5	724.6	724.6	724.6	724.6
724.7	724.7	724.7	724.8	724.8	724.8	724.9	724.9	725.0	725.0
725.1	725.2	725.3	725.4	725.5	725.6	725.7	725.7	725.7	725.7
725.7	725.7	725.7	725.7	725.6	725.6	725.6	725.6	725.6	725.6
725.6	725.6	725.6	725.6	725.6	725.7	725.7	725.7	725.7	725.8
725.8	725.8	725.8	725.9	725.9	725.9	725.9	725.9	726.0	726.0

726.0	726.0	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1
726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1
726.0	726.0	726.0	726.0	726.0	725.9	725.9	725.9	725.9	725.9
725.8	725.8	725.8	725.8	725.8	725.8	725.7	725.7	725.7	725.7
725.7	725.6	725.6	725.6	725.6	725.6	725.6	725.5	725.5	725.5
725.5	725.5	725.4	725.4	725.4	725.4	725.4	725.4	725.3	725.3
725.3	725.3	725.3	725.3	725.2	725.2	725.2	725.2	725.2	725.2

EAK OUTFLOW IS 269. AT TIME 20.0R HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	269.	229.	89.	86.	25731.
CMS	8.	6.	3.	2.	729.
INCHES		.44	.69	.69	.69
MM		11.28	17.58	17.58	17.58
AC-FT		114.	177.	177.	177.
THOUS CU M		140.	219.	219.	219.

STATION DAM 5, PLAN 1, RATIO 4

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	2.	2.	2.	2.	2.	2.	2.
2.	3.	3.	3.	4.	4.	4.	5.	5.	5.
6.	6.	7.	7.	8.	8.	8.	9.	9.	10.
10.	10.	11.	11.	12.	12.	12.	13.	13.	13.
14.	14.	15.	15.	15.	16.	16.	16.	17.	17.
17.	18.	18.	18.	19.	19.	19.	20.	20.	20.
21.	21.	21.	22.	22.	22.	23.	23.	24.	24.
24.	25.	25.	26.	26.	27.	27.	28.	28.	29.
30.	31.	33.	35.	38.	41.	44.	47.	50.	53.
56.	59.	62.	64.	67.	70.	72.	75.	77.	80.
82.	85.	87.	89.	92.	95.	97.	100.	105.	111.
116.	120.	125.	129.	133.	137.	142.	148.	157.	169.
184.	202.	220.	238.	254.	267.	277.	283.	287.	287.
285.	283.	279.	276.	273.	271.	270.	270.	271.	273.
276.	279.	284.	290.	298.	307.	316.	327.	338.	351.
367.	385.	409.	438.	474.	517.	564.	613.	662.	707.
747.	781.	807.	826.	838.	842.	842.	838.	828.	815.
799.	780.	760.	738.	715.	692.	668.	645.	621.	597.
574.	551.	529.	508.	488.	468.	450.	432.	416.	400.
385.	370.	356.	343.	330.	318.	306.	294.	283.	273.
263.	254.	246.	239.	232.	226.	220.	214.	208.	203.
198.	192.	187.	182.	178.	173.	168.	164.	159.	155.
151.	146.	142.	138.	134.	130.	126.	122.	119.	115.

727.0	727.1	727.3	727.4	727.7	728.0	728.3	728.7	729.0	729.4
729.8	730.0	730.1	730.2	730.2	730.3	730.3	730.3	730.3	730.3
730.3	730.3	730.3	730.3	730.3	730.2	730.2	730.1	730.1	730.1
730.0	729.7	729.5	729.3	729.1	728.9	728.7	728.6	728.4	728.3
728.1	728.0	727.8	727.7	727.6	727.5	727.4	727.3	727.2	727.1
727.0	726.9	726.8	726.7	726.6	726.5	726.5	726.4	726.3	726.3
726.2	726.1	726.1	726.0	726.0	725.9	725.9	725.8	725.8	725.8
725.7	725.7	725.7	725.6	725.6	725.6	725.5	725.5	725.5	725.5
725.4	725.4	725.4	725.3	725.3	725.3	725.3	725.2	725.2	725.2

EAK OUTFLOW IS 939. AT TIME 19.17 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	939.	601.	199.	191.	57293.
CMS	27.	17.	6.	5.	1622.
INCHES		1.16	1.54	1.54	1.54
MM		29.56	39.15	39.15	39.15
AC-FT		298.	395.	395.	395.
THOUS CU M		367.	487.	487.	487.

STATION DAM 5, PLAN 1, RATIO 6

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	1.	1.	1.	1.	1.	1.	2.
2.	2.	3.	3.	3.	4.	4.	5.	5.	6.
6.	7.	7.	8.	8.	9.	9.	10.	10.	11.
11.	12.	13.	13.	14.	14.	15.	15.	16.	17.
17.	18.	19.	19.	20.	21.	22.	23.	25.	27.
30.	34.	41.	48.	56.	64.	72.	80.	88.	96.
106.	120.	133.	144.	154.	163.	171.	179.	187.	194.
201.	209.	216.	223.	230.	237.	244.	251.	259.	266.
274.	283.	292.	301.	311.	322.	334.	346.	360.	376.
395.	418.	445.	477.	515.	560.	611.	671.	735.	803.
853.	883.	914.	946.	977.	1006.	1034.	1058.	1080.	1100.
1117.	1131.	1144.	1154.	1163.	1170.	1176.	1183.	1190.	1199.
1210.	1224.	1240.	1259.	1280.	1302.	1326.	1351.	1376.	1402.
1428.	1456.	1484.	1515.	1548.	1584.	1626.	1680.	1749.	1838.
1948.	2078.	2225.	2436.	2684.	2956.	3265.	3529.	3905.	4706.
5073.	5368.	5559.	5648.	5662.	5633.	5594.	5579.	5614.	5720.
5898.	6132.	6369.	6633.	6834.	6973.	7046.	7058.	7021.	6946.
6852.	6757.	6675.	6614.	6581.	6576.	6597.	6642.	6704.	6777.
6856.	6934.	7008.	7075.	7132.	7179.	7213.	7233.	7236.	7218.
7178.	7112.	7023.	6914.	6787.	6647.	6499.	6345.	6190.	6035.
5884.	5738.	5596.	5459.	5327.	5201.	5079.	4962.	4848.	4737.
4568.	4379.	4227.	4097.	3980.	3874.	3778.	3692.	3619.	3561.
3521.	3486.	3369.	3251.	3133.	3015.	2899.	2786.	2675.	2565.
2459.	2353.	2254.	2184.	2112.	2039.	1967.	1895.	1825.	1755.
1687.	1621.	1557.	1495.	1437.	1381.	1327.	1275.	1226.	1178.

1133.	1090.	1049.	1010.	973.	937.	904.	872.	842.	772.
714.	667.	627.	592.	562.	535.	510.	487.	465.	446.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	3.	3.	3.	3.
3.	4.	4.	5.	5.	6.	6.	6.	7.	7.
8.	8.	8.	9.	9.	9.	9.	9.	10.	10.
10.	10.	10.	11.	11.	11.	11.	11.	12.	12.
12.	12.	12.	13.	13.	13.	13.	14.	14.	14.
15.	16.	16.	17.	18.	19.	20.	22.	24.	25.
27.	29.	31.	33.	35.	37.	39.	41.	42.	44.
45.	46.	47.	47.	48.	48.	49.	49.	50.	50.
51.	52.	53.	54.	56.	57.	59.	61.	62.	64.
66.	68.	70.	72.	74.	76.	79.	83.	88.	94.
101.	110.	120.	130.	142.	155.	169.	186.	204.	220.
231.	239.	243.	245.	246.	245.	244.	244.	245.	247.
251.	256.	261.	266.	269.	272.	273.	273.	273.	271.
270.	268.	266.	265.	265.	265.	265.	266.	267.	268.
270.	271.	272.	274.	275.	275.	276.	276.	276.	276.
275.	274.	273.	271.	268.	266.	263.	260.	257.	254.
251.	247.	244.	241.	238.	234.	231.	228.	224.	221.
217.	214.	211.	209.	206.	203.	200.	197.	193.	189.
185.	180.	174.	169.	163.	158.	152.	147.	142.	136.
131.	127.	122.	117.	112.	107.	102.	97.	93.	88.
83.	79.	75.	70.	66.	63.	59.	56.	52.	49.
46.	43.	40.	38.	35.	33.	31.	28.	26.	25.
23.	22.	21.	20.	19.	19.	18.	17.	17.	16.

STAGE

723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.1
723.1	723.1	723.1	723.1	723.1	723.1	723.1	723.1	723.2	723.2
723.2	723.2	723.2	723.2	723.3	723.3	723.3	723.3	723.3	723.3
723.4	723.4	723.4	723.4	723.4	723.4	723.5	723.5	723.5	723.5
723.5	723.6	723.6	723.6	723.6	723.6	723.7	723.7	723.8	723.8
723.9	724.0	724.1	724.2	724.4	724.5	724.6	724.7	724.8	724.9
725.0	725.1	725.2	725.3	725.4	725.4	725.5	725.5	725.6	725.6
725.7	725.7	725.8	725.8	725.9	725.9	726.0	726.0	726.1	726.1
726.2	726.2	726.3	726.4	726.4	726.5	726.6	726.7	726.7	726.9
727.0	727.1	727.3	727.5	727.8	728.1	728.4	728.8	729.3	729.7
730.4	730.1	730.3	730.4	730.5	730.6	730.7	730.8	730.8	730.9
731.0	731.0	731.1	731.1	731.1	731.2	731.2	731.2	731.2	731.3
731.3	731.3	731.4	731.5	731.5	731.6	731.7	731.8	731.9	732.0
732.1	732.2	732.3	732.4	732.5	732.6	732.7	732.9	733.2	733.5
733.9	734.3	734.8	735.4	736.0	736.7	737.4	738.3	739.2	740.0
740.3	740.4	740.5	740.6	740.6	740.6	740.6	740.5	740.6	740.6
740.7	740.8	740.9	741.0	741.1	741.2	741.2	741.2	741.2	741.2

741.1	741.1	741.0	741.0	741.0	741.0	741.0	741.0	741.1	741.1
741.1	741.1	741.2	741.2	741.2	741.2	741.3	741.3	741.3	741.3
741.2	741.2	741.2	741.1	741.1	741.0	741.0	740.9	740.8	740.8
740.7	740.6	740.6	740.5	740.4	740.3	740.3	740.2	740.1	740.0
739.9	739.7	739.6	739.5	739.3	739.2	739.0	738.9	738.7	738.5
738.2	738.0	737.7	737.4	737.1	736.8	736.5	736.3	736.0	735.7
735.5	735.2	735.0	734.7	734.4	734.2	733.9	733.7	733.4	733.2
733.0	732.7	732.5	732.3	732.1	731.9	731.7	731.5	731.3	731.2
731.0	730.9	730.7	730.6	730.5	730.3	730.2	730.1	730.0	729.5
729.1	728.8	728.6	728.3	728.1	727.9	727.8	727.6	727.5	727.3

PEAK OUTFLOW IS 7236. AT TIME 18.25 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	7236.	5947.	2063.	1981.	594156.
CMS	205.	168.	58.	56.	16825.
INCHES		11.52	15.99	15.99	15.99
MM		292.61	406.04	406.04	406.04
AC-FT		2949.	4092.	4092.	4092.
THOUS CU M		3637.	5047.	5047.	5047.

STATION DAM 5, PLAN 1, RATIO 7

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	1.	2.	2.	3.	3.	4.
4.	5.	5.	6.	7.	8.	8.	9.	10.	11.
12.	13.	14.	15.	16.	17.	18.	19.	20.	22.
23.	24.	25.	26.	27.	28.	30.	31.	32.	35.
37.	39.	41.	44.	46.	49.	53.	58.	64.	72.
81.	92.	106.	132.	157.	180.	203.	225.	245.	265.
284.	302.	319.	336.	352.	368.	384.	399.	414.	429.
445.	462.	479.	495.	521.	546.	576.	610.	648.	692.
747.	800.	850.	881.	920.	967.	1022.	1084.	1153.	1228.
1310.	1400.	1502.	1623.	1767.	1938.	2134.	2390.	2715.	3010.
3245.	3413.	3507.	3520.	3529.	3527.	3518.	3508.	3458.	3377.
3293.	3209.	3129.	3056.	2992.	2939.	2901.	2880.	2877.	2894.
2929.	2977.	3038.	3108.	3186.	3268.	3354.	3441.	3507.	3529.
3577.	3657.	3769.	3908.	4062.	4220.	4372.	4516.	4649.	4728.
4795.	4874.	4966.	5074.	5198.	5338.	5493.	5662.	5838.	6018.
6199.	6379.	6556.	6732.	6914.	7117.	7375.	7741.	8267.	8998.
9947.	11050.	12152.	13086.	13762.	14176.	14378.	14435.	14405.	14331.
14261.	14248.	14305.	14416.	14568.	14739.	14904.	15045.	15152.	15223.
15260.	15266.	15245.	15198.	15127.	15032.	14912.	14761.	14564.	14311.
14001.	13651.	13274.	12877.	12467.	12056.	11657.	11273.	10898.	10540.
10198.	9875.	9576.	9304.	9052.	8812.	8582.	8357.	8134.	7911.
7684.	7462.	7242.	7023.	6805.	6588.	6375.	6167.	5966.	5772.
5585.	5404.	5236.	5073.	4918.	4771.	4574.	4328.	4140.	3986.
3856.	3745.	3652.	3580.	3530.	3505.	3487.	3266.	3146.	3028.

2914.	2804.	2697.	2593.	2493.	2396.	2302.	2229.	2166.	2103.
2041.	1980.	1920.	1861.	1804.	1749.	1696.	1644.	1595.	1547.
1501.	1456.	1413.	1370.	1329.	1289.	1249.	1209.	1171.	1133.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	2.	2.	2.	2.	2.	2.	2.	2.	3.
3.	3.	3.	3.	3.	3.	3.	4.	4.	4.
4.	4.	4.	4.	5.	5.	5.	5.	6.	6.
6.	7.	8.	8.	9.	10.	10.	11.	11.	12.
12.	13.	13.	13.	14.	14.	15.	15.	15.	16.
16.	17.	17.	18.	18.	19.	20.	20.	21.	23.
24.	25.	27.	29.	32.	35.	38.	43.	47.	52.
58.	64.	71.	79.	89.	100.	113.	128.	144.	157.
168.	176.	181.	185.	186.	186.	184.	182.	178.	175.
171.	167.	163.	159.	156.	154.	152.	151.	151.	152.
153.	156.	159.	162.	166.	169.	173.	177.	182.	186.
191.	195.	200.	204.	208.	211.	214.	216.	218.	220.
223.	225.	228.	231.	234.	238.	242.	246.	250.	253.
257.	261.	264.	267.	271.	274.	279.	285.	293.	304.
316.	330.	342.	352.	359.	363.	365.	365.	365.	364.
364.	363.	364.	365.	366.	368.	370.	371.	372.	373.
373.	373.	373.	372.	372.	371.	370.	368.	366.	364.
361.	358.	354.	350.	345.	341.	337.	332.	328.	324.
319.	315.	311.	308.	304.	301.	298.	294.	291.	288.
284.	280.	277.	273.	269.	265.	261.	256.	252.	248.
244.	240.	235.	231.	226.	222.	217.	213.	210.	206.
203.	199.	195.	191.	166.	181.	175.	169.	164.	158.
153.	148.	143.	138.	133.	129.	124.	120.	116.	111.
107.	103.	99.	95.	91.	88.	84.	80.	77.	74.
71.	68.	65.	62.	59.	56.	54.	51.	49.	46.

STAGE

723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0	723.0
723.0	723.0	723.0	723.0	723.0	723.1	723.1	723.1	723.1	723.1
723.1	723.1	723.2	723.2	723.2	723.2	723.3	723.3	723.3	723.3
723.4	723.4	723.4	723.5	723.5	723.5	723.6	723.6	723.6	723.7
723.7	723.7	723.8	723.8	723.9	723.9	723.9	724.0	724.0	724.0
724.1	724.1	724.1	724.2	724.2	724.2	724.3	724.4	724.5	724.6
724.7	724.9	725.0	725.2	725.4	725.5	725.7	725.8	726.0	726.1
726.2	726.4	726.5	726.6	726.7	726.8	726.9	727.0	727.1	727.2
727.3	727.4	727.6	727.7	727.8	728.0	728.2	728.4	728.7	729.0
729.3	729.7	730.0	730.1	730.3	730.4	730.6	730.8	731.1	731.4
731.6	732.0	732.3	732.7	733.2	733.8	734.5	735.3	736.1	736.8
737.4	737.8	738.1	738.2	738.3	738.3	738.2	738.1	737.9	737.7
737.5	737.3	737.1	736.9	736.8	736.6	736.5	736.5	736.5	736.5
736.6	736.7	736.9	737.0	737.2	737.4	737.6	737.8	738.1	738.3
738.5	738.8	739.0	739.2	739.4	739.6	739.7	739.9	740.0	740.0
740.1	740.1	740.2	740.3	740.3	740.4	740.5	740.6	740.7	740.8
740.8	740.9	741.0	741.1	741.1	741.2	741.3	741.4	741.6	741.9

742.1	742.4	742.7	742.9	743.1	743.2	743.2	743.2	743.2	743.2
743.2	743.2	743.2	743.2	743.2	743.3	743.3	743.3	743.4	743.4
743.4	743.4	743.4	743.4	743.4	743.3	743.3	743.3	743.2	743.2
743.1	743.1	743.0	742.9	742.8	742.7	742.6	742.5	742.4	742.3
742.2	742.1	742.0	742.0	741.9	741.8	741.7	741.7	741.6	741.5
741.4	741.3	741.3	741.2	741.1	741.0	740.9	740.8	740.7	740.6
740.5	740.5	740.4	740.3	740.2	740.1	739.9	739.7	739.5	739.3
739.2	739.0	738.8	738.5	738.3	738.0	737.7	737.4	737.1	736.8
736.6	736.3	736.0	735.8	735.5	735.3	735.1	734.9	734.6	734.4
734.2	734.0	733.8	733.6	733.4	733.2	733.0	732.8	732.6	732.5
732.3	732.2	732.0	731.9	731.7	731.6	731.4	731.3	731.2	731.0

EAK OUTFLOW IS 15266. AT TIME 17.67 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	15266.	10999.	3996.	3837.	1150965.
CMS	432.	311.	113.	109.	32592.
INCHES		21.31	30.97	30.97	30.97
MM		541.19	786.56	786.56	786.56
AC-FT		5454.	7927.	7927.	7927.
THOUS CU M		6727.	9778.	9778.	9778.

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HYDROGRAPH ROUTING

CHANNEL ROUTING TO HIGHWAY 63 EMBANKMENT

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
CHAN 6	1	0	0	0	0	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
.0	.000	.00	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	.000	.000	.000	0	0

ORMAL DEPTH CHANNEL ROUTING

QN(1)	QN(2)	QN(3)	ELNVT	ELMAX	RLNTH	SEL
.0700	.0500	.0700	700.0	730.0	10400.	.00630

CROSS SECTION COORDINATES--STA,ELEV,STA,ELEV--ETC

.00	730.00	40.00	720.00	100.00	710.00	280.00	700.00	360.00	700.00
560.00	710.00	760.00	720.00	920.00	730.00				

705.0	704.9	704.9	704.8	704.8	704.7	704.6	704.6	704.5	704.4
704.4	704.3	704.2	704.1	704.1	704.0	703.9	703.8	703.8	703.7
703.7	703.6	703.6	703.5	703.5	703.4	703.4	703.3	703.3	703.2
703.2	703.1	703.1	703.0	703.0	702.9	702.9	702.8	702.8	702.7

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	15110.	10948.	3952.	3794.	1138134.
CMS	428.	310.	112.	107.	32228.
INCHES		21.21	30.62	30.62	30.62
MM		538.69	777.79	777.79	777.79
AC-FT		5429.	7838.	7838.	7838.
THOUS CU M		6696.	9669.	9669.	9669.

MAXIMUM STORAGE = 507.

MAXIMUM STAGE IS 708.6

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SUB-AREA RUNOFF COMPUTATION

INFLOW TO HIGHWAY 63 EMBANKMENT

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
	AREA 6	0	0	0	0	3	1	0	0

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	2	1.46	.00	1.46	1.00	.000	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
.00	24.80	101.00	120.00	130.00	.00	.00	.00

LOSS DATA

LROPT	STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0	.00	.00	1.00	.00	.00	1.00	-1.00	-86.00	.00	.00

CURVE NO = -86.00 WETNESS = -1.00 EFFECT CN = 86.00

UNIT HYDROGRAPH DATA
TC= .00 LAG= 1.19

RECESSION DATA
STRTQ= .00 QRCSN= .00 RTIOR= 1.00

UNIT HYDROGRAPH 74 END OF PERIOD ORDINATES, TC= .00 HOURS, LAG= 1.19 VOL= 1.00

12.	31.	59.	93.	135.	182.	244.	313.	385.	446.
496.	535.	559.	569.	571.	567.	550.	525.	498.	468.
435.	397.	352.	308.	269.	241.	215.	192.	172.	155.
140.	126.	113.	102.	90.	80.	72.	65.	58.	52.

47.	42.	37.	33.	30.	27.	24.	22.	19.	17.		
16.	14.	12.	11.	10.	9.	8.	7.	6.	6.		
5.	5.	5.	4.	4.	3.	3.	2.	2.	2.		
1.	1.	0.	0.								

0 END-OF-PERIOD FLOW

MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q	MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q
1.01	.05	1	.01	.00	.01	0.	1.01	12.35	151	.21	.20	.01	791.
1.01	.10	2	.01	.00	.01	0.	1.01	12.40	152	.21	.20	.01	835.
1.01	.15	3	.01	.00	.01	0.	1.01	12.45	153	.21	.20	.01	889.
1.01	.20	4	.01	.00	.01	0.	1.01	12.50	154	.21	.20	.01	951.
1.01	.25	5	.01	.00	.01	0.	1.01	12.55	155	.21	.20	.01	1020.
1.01	.30	6	.01	.00	.01	0.	1.01	13.00	156	.21	.20	.01	1095.
1.01	.35	7	.01	.00	.01	0.	1.01	13.05	157	.25	.24	.01	1174.
1.01	.40	8	.01	.00	.01	0.	1.01	13.10	158	.25	.24	.01	1255.
1.01	.45	9	.01	.00	.01	0.	1.01	13.15	159	.25	.24	.01	1337.
1.01	.50	10	.01	.00	.01	0.	1.01	13.20	160	.25	.24	.01	1421.
1.01	.55	11	.01	.00	.01	0.	1.01	13.25	161	.25	.24	.01	1504.
1.01	1.00	12	.01	.00	.01	0.	1.01	13.30	162	.25	.24	.01	1585.
1.01	1.05	13	.01	.00	.01	0.	1.01	13.35	163	.25	.25	.01	1666.
1.01	1.10	14	.01	.00	.01	0.	1.01	13.40	164	.25	.25	.01	1746.
1.01	1.15	15	.01	.00	.01	0.	1.01	13.45	165	.25	.25	.00	1824.
1.01	1.20	16	.01	.00	.01	0.	1.01	13.50	166	.25	.25	.00	1899.
1.01	1.25	17	.01	.00	.01	0.	1.01	13.55	167	.25	.25	.00	1970.
1.01	1.30	18	.01	.00	.01	0.	1.01	14.00	168	.25	.25	.00	2037.
1.01	1.35	19	.01	.00	.01	0.	1.01	14.05	169	.31	.31	.01	2101.
1.01	1.40	20	.01	.00	.01	0.	1.01	14.10	170	.31	.31	.00	2162.
1.01	1.45	21	.01	.00	.01	0.	1.01	14.15	171	.31	.31	.00	2221.
1.01	1.50	22	.01	.00	.01	0.	1.01	14.20	172	.31	.31	.00	2279.
1.01	1.55	23	.01	.00	.01	0.	1.01	14.25	173	.31	.31	.00	2336.
1.01	2.00	24	.01	.00	.01	0.	1.01	14.30	174	.31	.31	.00	2393.
1.01	2.05	25	.01	.00	.01	0.	1.01	14.35	175	.31	.31	.00	2450.
1.01	2.10	26	.01	.00	.01	0.	1.01	14.40	176	.31	.31	.00	2509.
1.01	2.15	27	.01	.00	.01	0.	1.01	14.45	177	.31	.31	.00	2569.
1.01	2.20	28	.01	.00	.01	0.	1.01	14.50	178	.31	.31	.00	2629.
1.01	2.25	29	.01	.00	.01	0.	1.01	14.55	179	.31	.31	.00	2689.
1.01	2.30	30	.01	.00	.01	0.	1.01	15.00	180	.31	.31	.00	2748.
1.01	2.35	31	.01	.00	.01	0.	1.01	15.05	181	.19	.19	.00	2805.
1.01	2.40	32	.01	.00	.01	1.	1.01	15.10	182	.38	.38	.00	2859.
1.01	2.45	33	.01	.00	.01	1.	1.01	15.15	183	.38	.38	.00	2913.
1.01	2.50	34	.01	.00	.01	1.	1.01	15.20	184	.57	.57	.00	2967.
1.01	2.55	35	.01	.00	.01	2.	1.01	15.25	185	.67	.66	.01	3025.
1.01	3.00	36	.01	.00	.01	2.	1.01	15.30	186	1.62	1.61	.01	3100.
1.01	3.05	37	.01	.00	.01	3.	1.01	15.35	187	2.67	2.65	.02	3213.
1.01	3.10	38	.01	.00	.01	4.	1.01	15.40	188	1.05	1.04	.01	3365.
1.01	3.15	39	.01	.00	.01	5.	1.01	15.45	189	.67	.66	.00	3557.
1.01	3.20	40	.01	.00	.01	6.	1.01	15.50	190	.57	.57	.00	3790.
1.01	3.25	41	.01	.00	.01	7.	1.01	15.55	191	.38	.38	.00	4062.
1.01	3.30	42	.01	.00	.01	8.	1.01	16.00	192	.38	.38	.00	4377.
1.01	3.35	43	.01	.00	.01	10.	1.01	16.05	193	.29	.29	.00	4741.
1.01	3.40	44	.01	.00	.01	11.	1.01	16.10	194	.29	.29	.00	5130.
1.01	3.45	45	.01	.00	.01	13.	1.01	16.15	195	.29	.29	.00	5516.
1.01	3.50	46	.01	.00	.01	14.	1.01	16.20	196	.29	.29	.00	5860.
1.01	3.55	47	.01	.00	.01	16.	1.01	16.25	197	.29	.29	.00	6148.
1.01	4.00	48	.01	.00	.01	17.	1.01	16.30	198	.29	.29	.00	6372.

1.01	4.05	49	.01	.00	.01	19.	1.01	16.35	199	.29	.29	.00	6520.
1.01	4.10	50	.01	.00	.01	21.	1.01	16.40	200	.29	.29	.00	6599.
1.01	4.15	51	.01	.00	.01	22.	1.01	16.45	201	.29	.29	.00	6624.
1.01	4.20	52	.01	.00	.01	24.	1.01	16.50	202	.29	.29	.00	6595.
1.01	4.25	53	.01	.00	.01	26.	1.01	16.55	203	.29	.29	.00	6509.
1.01	4.30	54	.01	.00	.01	27.	1.01	17.00	204	.29	.29	.00	6384.
1.01	4.35	55	.01	.01	.01	29.	1.01	17.05	205	.23	.23	.00	6231.
1.01	4.40	56	.01	.01	.01	31.	1.01	17.10	206	.23	.23	.00	6051.
1.01	4.45	57	.01	.01	.01	33.	1.01	17.15	207	.23	.23	.00	5847.
1.01	4.50	58	.01	.01	.01	34.	1.01	17.20	208	.23	.23	.00	5616.
1.01	4.55	59	.01	.01	.01	36.	1.01	17.25	209	.23	.23	.00	5367.
1.01	5.00	60	.01	.01	.01	37.	1.01	17.30	210	.23	.23	.00	5120.
1.01	5.05	61	.01	.01	.01	39.	1.01	17.35	211	.23	.23	.00	4893.
1.01	5.10	62	.01	.01	.01	41.	1.01	17.40	212	.23	.23	.00	4693.
1.01	5.15	63	.01	.01	.01	42.	1.01	17.45	213	.23	.23	.00	4509.
1.01	5.20	64	.01	.01	.01	44.	1.01	17.50	214	.23	.23	.00	4341.
1.01	5.25	65	.01	.01	.01	45.	1.01	17.55	215	.23	.23	.00	4189.
1.01	5.30	66	.01	.01	.01	47.	1.01	18.00	216	.23	.23	.00	4050.
1.01	5.35	67	.01	.01	.01	48.	1.01	18.05	217	.02	.02	.00	3921.
1.01	5.40	68	.01	.01	.01	50.	1.01	18.10	218	.02	.02	.00	3794.
1.01	5.45	69	.01	.01	.01	51.	1.01	18.15	219	.02	.02	.00	3668.
1.01	5.50	70	.01	.01	.01	52.	1.01	18.20	220	.02	.02	.00	3543.
1.01	5.55	71	.01	.01	.01	54.	1.01	18.25	221	.02	.02	.00	3415.
1.01	6.00	72	.01	.01	.01	55.	1.01	18.30	222	.02	.02	.00	3287.
1.01	6.05	73	.07	.03	.03	57.	1.01	18.35	223	.02	.02	.00	3155.
1.01	6.10	74	.07	.04	.03	59.	1.01	18.40	224	.02	.02	.00	3015.
1.01	6.15	75	.07	.04	.03	62.	1.01	18.45	225	.02	.02	.00	2867.
1.01	6.20	76	.07	.04	.03	66.	1.01	18.50	226	.02	.02	.00	2712.
1.01	6.25	77	.07	.04	.03	71.	1.01	18.55	227	.02	.02	.00	2553.
1.01	6.30	78	.07	.04	.02	77.	1.01	19.00	228	.02	.02	.00	2393.
1.01	6.35	79	.07	.04	.02	86.	1.01	19.05	229	.02	.02	.00	2233.
1.01	6.40	80	.07	.04	.02	96.	1.01	19.10	230	.02	.02	.00	2075.
1.01	6.45	81	.07	.04	.02	109.	1.01	19.15	231	.02	.02	.00	1922.
1.01	6.50	82	.07	.05	.02	124.	1.01	19.20	232	.02	.02	.00	1773.
1.01	6.55	83	.07	.05	.02	141.	1.01	19.25	233	.02	.02	.00	1631.
1.01	7.00	84	.07	.05	.02	160.	1.01	19.30	234	.02	.02	.00	1497.
1.01	7.05	85	.07	.05	.02	179.	1.01	19.35	235	.02	.02	.00	1371.
1.01	7.10	86	.07	.05	.02	200.	1.01	19.40	236	.02	.02	.00	1253.
1.01	7.15	87	.07	.05	.02	221.	1.01	19.45	237	.02	.02	.00	1145.
1.01	7.20	88	.07	.05	.02	243.	1.01	19.50	238	.02	.02	.00	1046.
1.01	7.25	89	.07	.05	.02	265.	1.01	19.55	239	.02	.02	.00	958.
1.01	7.30	90	.07	.05	.01	286.	1.01	20.00	240	.02	.02	.00	881.
1.01	7.35	91	.07	.05	.01	307.	1.01	20.05	241	.02	.02	.00	813.
1.01	7.40	92	.07	.05	.01	328.	1.01	20.10	242	.02	.02	.00	753.
1.01	7.45	93	.07	.05	.01	348.	1.01	20.15	243	.02	.02	.00	699.
1.01	7.50	94	.07	.05	.01	367.	1.01	20.20	244	.02	.02	.00	650.
1.01	7.55	95	.07	.05	.01	385.	1.01	20.25	245	.02	.02	.00	607.
1.01	8.00	96	.07	.05	.01	402.	1.01	20.30	246	.02	.02	.00	569.
1.01	8.05	97	.07	.05	.01	418.	1.01	20.35	247	.02	.02	.00	534.
1.01	8.10	98	.07	.05	.01	432.	1.01	20.40	248	.02	.02	.00	503.
1.01	8.15	99	.07	.05	.01	446.	1.01	20.45	249	.02	.02	.00	475.
1.01	8.20	100	.07	.06	.01	460.	1.01	20.50	250	.02	.02	.00	449.
1.01	8.25	101	.07	.06	.01	472.	1.01	20.55	251	.02	.02	.00	426.
1.01	8.30	102	.07	.06	.01	484.	1.01	21.00	252	.02	.02	.00	405.
1.01	8.35	103	.07	.06	.01	495.	1.01	21.05	253	.02	.02	.00	386.
1.01	8.40	104	.07	.06	.01	506.	1.01	21.10	254	.02	.02	.00	369.

1.01	8.45	105	.07	.06	.01	516.	1.01	21.15	255	.02	.02	.00	354.
1.01	8.50	106	.07	.06	.01	525.	1.01	21.20	256	.02	.02	.00	340.
1.01	8.55	107	.07	.06	.01	534.	1.01	21.25	257	.02	.02	.00	327.
1.01	9.00	108	.07	.06	.01	543.	1.01	21.30	258	.02	.02	.00	315.
1.01	9.05	109	.07	.06	.01	551.	1.01	21.35	259	.02	.02	.00	305.
1.01	9.10	110	.07	.06	.01	558.	1.01	21.40	260	.02	.02	.00	296.
1.01	9.15	111	.07	.06	.01	566.	1.01	21.45	261	.02	.02	.00	288.
1.01	9.20	112	.07	.06	.01	572.	1.01	21.50	262	.02	.02	.00	282.
1.01	9.25	113	.07	.06	.01	579.	1.01	21.55	263	.02	.02	.00	276.
1.01	9.30	114	.07	.06	.01	585.	1.01	22.00	264	.02	.02	.00	[illegible]
1.01	9.35	115	.07	.06	.01	591.	1.01	22.05	265	.02	.02	.00	[illegible]
1.01	9.40	116	.07	.06	.01	596.	1.01	22.10	266	.02	.02	.00	265.
1.01	9.45	117	.07	.06	.01	601.	1.01	22.15	267	.02	.02	.00	260.
1.01	9.50	118	.07	.06	.01	606.	1.01	22.20	268	.02	.02	.00	256.
1.01	9.55	119	.07	.06	.01	611.	1.01	22.25	269	.02	.02	.00	254.
1.01	10.00	120	.07	.06	.01	615.	1.01	22.30	270	.02	.02	.00	251.
1.01	10.05	121	.07	.06	.01	620.	1.01	22.35	271	.02	.02	.00	249.
1.01	10.10	122	.07	.06	.01	624.	1.01	22.40	272	.02	.02	.00	247.
1.01	10.15	123	.07	.06	.01	628.	1.01	22.45	273	.02	.02	.00	245.
1.01	10.20	124	.07	.06	.01	631.	1.01	22.50	274	.02	.02	.00	244.
1.01	10.25	125	.07	.06	.01	635.	1.01	22.55	275	.02	.02	.00	242.
1.01	10.30	126	.07	.06	.01	638.	1.01	23.00	276	.02	.02	.00	241.
1.01	10.35	127	.07	.06	.01	641.	1.01	23.05	277	.02	.02	.00	240.
1.01	10.40	128	.07	.06	.00	644.	1.01	23.10	278	.02	.02	.00	239.
1.01	10.45	129	.07	.06	.00	647.	1.01	23.15	279	.02	.02	.00	238.
1.01	10.50	130	.07	.06	.00	650.	1.01	23.20	280	.02	.02	.00	237.
1.01	10.55	131	.07	.06	.00	653.	1.01	23.25	281	.02	.02	.00	236.
1.01	11.00	132	.07	.06	.00	655.	1.01	23.30	282	.02	.02	.00	235.
1.01	11.05	133	.07	.06	.00	657.	1.01	23.35	283	.02	.02	.00	235.
1.01	11.10	134	.07	.06	.00	660.	1.01	23.40	284	.02	.02	.00	234.
1.01	11.15	135	.07	.06	.00	662.	1.01	23.45	285	.02	.02	.00	234.
1.01	11.20	136	.07	.06	.00	664.	1.01	23.50	286	.02	.02	.00	234.
1.01	11.25	137	.07	.06	.00	666.	1.01	23.55	287	.02	.02	.00	233.
1.01	11.30	138	.07	.06	.00	668.	1.02	.00	288	.02	.02	.00	233.
1.01	11.35	139	.07	.06	.00	670.	1.02	.05	289	.00	.00	.00	233.
1.01	11.40	140	.07	.06	.00	672.	1.02	.10	290	.00	.00	.00	232.
1.01	11.45	141	.07	.06	.00	674.	1.02	.15	291	.00	.00	.00	231.
1.01	11.50	142	.07	.06	.00	675.	1.02	.20	292	.00	.00	.00	229.
1.01	11.55	143	.07	.06	.00	677.	1.02	.25	293	.00	.00	.00	226.
1.01	12.00	144	.07	.06	.00	678.	1.02	.30	294	.00	.00	.00	223.
1.01	12.05	145	.21	.20	.01	681.	1.02	.35	295	.00	.00	.00	218.
1.01	12.10	146	.21	.20	.01	687.	1.02	.40	296	.00	.00	.00	211.
1.01	12.15	147	.21	.20	.01	696.	1.02	.45	297	.00	.00	.00	203.
1.01	12.20	148	.21	.20	.01	710.	1.02	.50	298	.00	.00	.00	194.
1.01	12.25	149	.21	.20	.01	730.	1.02	.55	299	.00	.00	.00	184.
1.01	12.30	150	.21	.20	.01	756.	1.02	1.00	300	.00	.00	.00	173.
									SUM	32.24	30.37	1.87	341706.
										(819.)(	771.)(	48.)(	9676.04)

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	6624.	3662.	1186.	1139.	341620.
CMS	188.	104.	34.	32.	9674.
INCHES		23.32	30.21	30.21	30.21
MM		592.23	767.34	767.34	767.34
AC-FT		1816.	2353.	2353.	2353.

THOUS CU M		2240.	2902.	2902.	2902.

HYDROGRAPH AT STAAREA 6 FOR PLAN 1, RTIO 1

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	66.	37.	12.	11.	3416.
CMS	2.	1.	0.	0.	97.
INCHES		.23	.30	.30	.30
MM		5.92	7.67	7.67	7.67
AC-FT		18.	24.	24.	24.
THOUS CU M		22.	29.	29.	29.

HYDROGRAPH AT STAAREA 6 FOR PLAN 1, RTIO 2

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	132.	73.	24.	23.	6832.
CMS	4.	2.	1.	1.	193.
INCHES		.47	.60	.60	.60
MM		11.84	15.35	15.35	15.35
AC-FT		36.	47.	47.	47.
THOUS CU M		45.	58.	58.	58.

HYDROGRAPH AT STAAREA 6 FOR PLAN 1, RTIO 3

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	199.	110.	36.	34.	10249.
CMS	6.	3.	1.	1.	290.
INCHES		.70	.91	.91	.91
MM		17.77	23.02	23.02	23.02
AC-FT		54.	71.	71.	71.
THOUS CU M		67.	87.	87.	87.

HYDROGRAPH AT STAAREA 6 FOR PLAN 1, RTIO 4

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	265.	146.	47.	46.	13665.
CMS	8.	4.	1.	1.	387.
INCHES		.93	1.21	1.21	1.21
MM		23.69	30.69	30.69	30.69
AC-FT		73.	94.	94.	94.
THOUS CU M		90.	116.	116.	116.

HYDROGRAPH AT STAAREA 6 FOR PLAN 1, RTIO 5

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	331.	183.	59.	57.	17081.

CMS	9.	5.	2.	2.	484.
INCHES		1.17	1.51	1.51	1.51
MM		29.61	38.37	38.37	38.37
AC-FT		91.	118.	118.	118.
THOUS CU M		112.	145.	145.	145.

HYDROGRAPH AT STAAREA 6 FOR PLAN 1, RTIO 6

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3312.	1831.	593.	569.	170810.
CMS	94.	52.	17.	16.	4837.
INCHES		11.66	15.11	15.11	15.11
MM		296.12	383.67	383.67	383.67
AC-FT		908.	1176.	1176.	1176.
THOUS CU M		1120.	1451.	1451.	1451.

HYDROGRAPH AT STAAREA 6 FOR PLAN 1, RTIO 7

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	6624.	3662.	1186.	1139.	341620.
CMS	188.	104.	34.	32.	9674.
INCHES		23.32	30.21	30.21	30.21
MM		592.23	767.34	767.34	767.34
AC-FT		1816.	2353.	2353.	2353.
THOUS CU M		2240.	2902.	2902.	2902.

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COMBINE HYDROGRAPHS

COMBINE HYDROGRAPHS-TOTAL INFLOW TO HWY 63(OUTFLOW FROM HWY 63 & AREA 6)

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
6	2	0	0	0	0	1	0	0

SUM OF 2 HYDROGRAPHS AT 6 PLAN 1 RTIO 1

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	2.	2.	2.	2.	2.	3.	3.	3.	4.
4.	4.	4.	5.	5.	5.	5.	6.	6.	6.
6.	6.	7.	7.	7.	7.	7.	7.	8.	8.

149.	148.	148.	149.	149.	149.	149.	150.	150.	150.
151.	151.	152.	152.	152.	152.	153.	153.	153.	153.
153.	153.	153.	153.	153.	152.	152.	152.	151.	151.
150.	150.	149.	149.	148.	147.	146.	145.	144.	143.
142.	141.	140.	139.	138.	136.	135.	134.	133.	131.
130.	128.	127.	125.	124.	122.	121.	119.	118.	116.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	214.	170.	74.	71.	21263.
CMS	6.	5.	2.	2.	602.
INCHES		.25	.44	.44	.44
MM		6.43	11.14	11.14	11.14
AC-FT		84.	146.	146.	146.
THOUS CU M		104.	181.	181.	181.

SUM OF 2 HYDROGRAPHS AT 6 PLAN 1 RTIO 3

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	3.	3.	3.	3.	3.	3.	4.
4.	5.	5.	6.	7.	7.	8.	9.	10.	11.
11.	12.	13.	14.	15.	15.	16.	17.	17.	18.
19.	19.	20.	20.	21.	21.	22.	22.	23.	23.
24.	24.	25.	25.	26.	26.	27.	27.	27.	28.
28.	29.	29.	29.	30.	30.	30.	31.	31.	31.
32.	32.	32.	33.	33.	33.	34.	34.	34.	35.
35.	35.	36.	36.	36.	37.	37.	38.	39.	40.
41.	43.	45.	47.	50.	52.	55.	58.	62.	65.
68.	72.	75.	79.	82.	86.	90.	93.	97.	100.
104.	107.	111.	114.	117.	121.	125.	128.	132.	135.
139.	143.	146.	150.	153.	157.	163.	169.	177.	187.
198.	211.	227.	244.	262.	279.	295.	308.	319.	328.
335.	339.	341.	341.	340.	338.	335.	330.	325.	319.
314.	310.	306.	303.	300.	298.	296.	294.	292.	291.
289.	288.	286.	285.	283.	281.	279.	277.	275.	273.
271.	270.	268.	267.	266.	266.	265.	265.	265.	265.
265.	266.	266.	266.	266.	267.	267.	267.	266.	266.
266.	265.	264.	263.	262.	261.	260.	258.	257.	255.
254.	252.	250.	248.	246.	244.	242.	240.	238.	236.
234.	231.	229.	227.	224.	222.	220.	217.	215.	213.
210.	208.	205.	203.	200.	198.	195.	193.	190.	188.
185.	183.	180.	178.	175.	172.	170.	167.	164.	161.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	341.	283.	118.	113.	33998.
CMS	10.	8.	3.	3.	963.
INCHES		.42	.70	.70	.70
MM		10.68	17.81	17.81	17.81
AC-FT		140.	234.	234.	234.

4.	4.	4.	4.	4.	5.	5.	5.	6.	6.
7.	8.	9.	10.	11.	12.	14.	15.	16.	18.
19.	20.	22.	23.	24.	25.	27.	28.	29.	30.
31.	32.	33.	34.	35.	36.	37.	37.	38.	39.
40.	41.	41.	42.	43.	44.	44.	45.	46.	46.
47.	48.	48.	49.	49.	50.	51.	51.	52.	52.
53.	54.	54.	55.	55.	56.	56.	57.	57.	58.
59.	59.	60.	60.	61.	62.	63.	65.	66.	68.
71.	74.	78.	82.	87.	92.	98.	104.	110.	116.
122.	128.	135.	141.	147.	153.	160.	165.	171.	177.
183.	189.	195.	202.	208.	215.	221.	228.	235.	242.
249.	255.	262.	269.	276.	284.	293.	305.	320.	337.
356.	379.	406.	435.	465.	493.	518.	541.	559.	573.
584.	592.	595.	596.	595.	592.	588.	582.	575.	569.
563.	560.	559.	559.	562.	568.	576.	587.	602.	619.
639.	675.	714.	749.	780.	808.	832.	854.	872.	887.
900.	910.	917.	923.	926.	927.	926.	924.	920.	915.
909.	900.	887.	872.	855.	836.	816.	795.	774.	752.
731.	709.	688.	667.	646.	625.	605.	585.	566.	548.
530.	512.	496.	483.	473.	464.	454.	444.	434.	425.
415.	405.	395.	385.	376.	366.	357.	348.	340.	331.
323.	315.	308.	300.	293.	286.	279.	272.	266.	260.
253.	247.	241.	235.	230.	224.	218.	212.	207.	201.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	927.	687.	250.	240.	71933.
CMS	26.	19.	7.	7.	2037.
INCHES		1.02	1.48	1.48	1.48
MM		25.93	37.69	37.69	37.69
AC-FT		341.	495.	495.	495.
THOUS CU M		420.	611.	611.	611.

SUM OF 2 HYDROGRAPHS AT 6 PLAN 1 RTIO 6

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	1.	1.	1.	1.	2.	2.	3.	4.
4.	5.	6.	7.	8.	8.	9.	11.	12.	13.
14.	15.	16.	17.	18.	20.	21.	22.	23.	24.
26.	27.	28.	29.	30.	32.	33.	34.	35.	36.
38.	39.	40.	42.	44.	46.	49.	53.	58.	64.
72.	80.	90.	101.	114.	127.	140.	155.	169.	184.
199.	215.	231.	246.	262.	277.	292.	306.	320.	334.
347.	360.	373.	385.	397.	409.	421.	432.	443.	454.
465.	476.	486.	497.	508.	518.	529.	540.	551.	562.
575.	587.	601.	616.	633.	651.	672.	695.	722.	751.
783.	826.	879.	930.	978.	1024.	1068.	1109.	1149.	1186.
1220.	1253.	1282.	1310.	1336.	1361.	1386.	1412.	1438.	1467.
1500.	1536.	1578.	1624.	1675.	1729.	1785.	1844.	1904.	1966.
2028.	2091.	2154.	2217.	2280.	2344.	2407.	2471.	2537.	2607.
2685.	2771.	2867.	2980.	3137.	3317.	3520.	3742.	3986.	4291.
4645.	5000.	5340.	5673.	5986.	6252.	6485.	6699.	6907.	7128.
7376.	7664.	7998.	8364.	8738.	9090.	9399.	9652.	9837.	9956.

FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:32:58 CASE PMF

10015.	10020.	9976.	9899.	9801.	9690.	9573.	9452.	9333.	9227.
9142.	9081.	9035.	9002.	8979.	8962.	8948.	8930.	8906.	8873.
8828.	8769.	8692.	8593.	8473.	8334.	8176.	8003.	7818.	7625.
7427.	7225.	7024.	6825.	6629.	6438.	6254.	6076.	5906.	5744.
5584.	5417.	5247.	5080.	4919.	4766.	4622.	4486.	4359.	4247.
4156.	4077.	3990.	3901.	3806.	3707.	3605.	3500.	3394.	3286.
3179.	3072.	2965.	2862.	2764.	2671.	2580.	2493.	2408.	2325.
2245.	2167.	2091.	2017.	1945.	1880.	1826.	1773.	1720.	1667.
1615.	1565.	1515.	1467.	1420.	1374.	1330.	1288.	1246.	1204.
1158.	1111.	1064.	1018.	972.	928.	885.	843.	803.	764.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	10020.	7514.	2630.	2525.	757489.
CMS	284.	213.	74.	71.	21450.
INCHES		11.16	15.63	15.63	15.63
MM		283.46	396.91	396.91	396.91
AC-FT		3726.	5217.	5217.	5217.
THOUS CU M		4596.	6435.	6435.	6435.

SUM OF 2 HYDROGRAPHS AT 6 PLAN 1 RTIO 7

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	2.	2.	3.	4.	5.	6.	7.
8.	10.	12.	13.	15.	17.	19.	21.	23.	25.
28.	30.	32.	34.	37.	39.	41.	44.	46.	49.
51.	54.	56.	58.	61.	63.	66.	68.	70.	73.
75.	78.	81.	85.	89.	94.	101.	110.	120.	133.
149.	168.	189.	213.	239.	268.	299.	331.	364.	397.
431.	464.	497.	530.	562.	592.	622.	651.	679.	707.
734.	760.	786.	812.	837.	863.	889.	915.	943.	971.
1001.	1034.	1078.	1132.	1184.	1235.	1287.	1340.	1395.	1452.
1513.	1577.	1646.	1721.	1803.	1896.	2000.	2121.	2265.	2432.
2457.	2879.	3086.	3268.	3421.	3551.	3658.	3746.	3815.	3862.
3886.	3895.	3889.	3870.	3846.	3819.	3793.	3773.	3762.	3764.
3782.	3820.	3877.	3954.	4047.	4155.	4275.	4405.	4541.	4677.
4809.	4942.	5082.	5231.	5392.	5562.	5738.	5917.	6097.	6284.
6467.	6640.	6805.	6969.	7135.	7307.	7486.	7675.	7872.	8075.
8284.	8496.	8710.	8929.	9154.	9401.	9698.	10058.	10504.	11065.
11795.	12717.	13795.	14966.	16138.	17216.	18145.	18934.	19531.	19939.
20195.	20331.	20377.	20371.	20360.	20292.	20228.	20141.	20030.	19910.
19792.	19680.	19562.	19434.	19299.	19153.	18992.	18808.	18598.	18353.
18066.	17739.	17367.	16952.	16498.	16012.	15504.	14984.	14460.	13967.
13479.	12997.	12526.	12073.	11641.	11230.	10841.	10473.	10126.	9798.
9485.	9183.	8893.	8612.	8339.	8074.	7835.	7604.	7374.	7149.
6927.	6711.	6501.	6298.	6101.	5912.	5724.	5529.	5328.	5133.
4947.	4774.	4615.	4470.	4340.	4240.	4149.	4053.	3952.	3848.
3743.	3636.	3528.	3421.	3315.	3209.	3106.	3005.	2910.	2820.
2735.	2653.	2575.	2500.	2428.	2359.	2292.	2227.	2165.	2105.
2046.	1991.	1946.	1899.	1851.	1803.	1752.	1701.	1650.	1598.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	20377.	14266.	5138.	4933.	1479754.

CMS	577.	404.	145.	140.	41902.
INCHES		21.19	30.53	30.53	30.53
MM		538.21	775.35	775.35	775.35
AC-FT		7074.	10191.	10191.	10191.
THOUS CU M		8726.	12571.	12571.	12571.

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HYDROGRAPH ROUTING

ROUTING THROUGH HIGHWAY 63 EMBANKMENT

	ISTAG	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
	DAM 6	1	0	0	0	0	1	0	0

ROUTING DATA

ULOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
.0	.000	.00	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	.000	.000	.000	-657.	-1

STAGE	657.00	658.00	660.00	665.00	670.00	675.00	680.00	685.00	687.00	700.00
FLOW	.00	33.00	190.00	915.00	2083.00	3728.00	5898.00	8643.00	9913.00	9914.00

CAPACITY=	0.	3.	55.	234.	646.	1377.
ELEVATION=	657.	660.	670.	680.	690.	700.

CREL	SPWID	COQW	EXPW	ELEVL	COQL	CAREA	EXPL
657.0	.0	.0	.0	.0	.0	.0	.0

DAM DATA

TOPEL	COQD	EXPD	DAMWID
687.0	.0	.0	0.

CREST LENGTH	0.	39.	340.	1180.
AT OR BELOW ELEVATION	686.9	687.0	690.0	770.0

STATION DAM 6, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	1.	1.	1.	1.	1.	1.

STAGE

657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.1	657.1	657.1	657.1
657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.2
657.2	657.2	657.2	657.2	657.2	657.3	657.3	657.3	657.3	657.3
657.3	657.3	657.3	657.4	657.4	657.4	657.4	657.4	657.4	657.4
657.4	657.5	657.5	657.5	657.5	657.5	657.5	657.5	657.5	657.5
657.5	657.5	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6
657.6	657.6	657.6	657.6	657.6	657.6	657.7	657.7	657.7	657.7
657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7
657.8	657.8	657.8	657.8	657.9	657.9	657.9	658.0	658.0	658.1
658.1	658.1	658.2	658.2	658.2	658.2	658.3	658.3	658.3	658.4
658.4	658.4	658.4	658.4	658.5	658.5	658.5	658.6	658.6	658.6
658.6	658.7	658.7	658.7	658.8	658.8	658.8	658.9	658.9	659.0
659.1	659.2	659.3	659.4	659.5	659.6	659.7	659.9	660.0	660.0
660.0	660.1	660.1	660.1	660.1	660.1	660.1	660.1	660.1	660.1
660.1	660.1	660.1	660.1	660.0	660.0	660.0	660.0	660.0	659.9
659.9	659.9	659.9	659.8	659.8	659.8	659.8	659.7	659.7	659.7
659.7	659.6	659.6	659.6	659.6	659.5	659.5	659.5	659.5	659.5
659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5
659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5
659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.5
659.5	659.5	659.5	659.5	659.5	659.5	659.5	659.4	659.4	659.4
659.4	659.4	659.4	659.4	659.4	659.3	659.3	659.3	659.3	659.3
659.3	659.2	659.2	659.2	659.2	659.2	659.1	659.1	659.1	659.1

PEAK OUTFLOW IS 207. AT TIME 17.33 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	207.	170.	73.	70.	20997.
CMS	6.	5.	2.	2.	595.
INCHES		.25	.43	.43	.43
MM		6.42	11.00	11.00	11.00
AC-FT		84.	145.	145.	145.
THOUS CU M		104.	178.	178.	178.

STATION DAM 6, PLAN 1, RATIO 3

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.

1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	3.	3.	3.
3.	4.	4.	4.	5.	5.	6.	7.	7.	8.
9.	9.	10.	11.	12.	12.	13.	14.	15.	15.
16.	17.	17.	18.	19.	19.	20.	20.	21.	21.
22.	22.	23.	23.	24.	24.	25.	25.	26.	26.
26.	27.	27.	28.	28.	28.	29.	29.	30.	30.
30.	31.	31.	31.	32.	32.	32.	33.	33.	33.
34.	35.	35.	35.	36.	36.	36.	37.	38.	38.
39.	41.	42.	44.	46.	48.	51.	54.	57.	60.
63.	66.	70.	73.	77.	80.	84.	87.	91.	95.
98.	102.	105.	108.	112.	115.	119.	122.	126.	130.
133.	137.	140.	144.	147.	151.	155.	160.	166.	173.
182.	191.	196.	203.	212.	222.	233.	245.	257.	269.
280.	290.	299.	306.	312.	317.	320.	322.	323.	323.
322.	320.	318.	316.	313.	311.	308.	306.	304.	302.
300.	298.	296.	294.	292.	290.	289.	287.	285.	283.
281.	279.	277.	276.	274.	273.	271.	270.	269.	269.
268.	268.	267.	267.	267.	267.	267.	267.	267.	267.
267.	266.	266.	266.	265.	265.	264.	263.	262.	261.
260.	259.	257.	256.	254.	253.	251.	249.	247.	246.
244.	242.	240.	238.	236.	233.	231.	229.	227.	224.
222.	220.	218.	215.	213.	210.	208.	206.	203.	201.
198.	196.	193.	191.	185.	180.	176.	172.	169.	166.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
3.	3.	3.	3.	3.	4.	4.	5.	5.	5.
6.	6.	6.	7.	7.	7.	7.	7.	7.	7.
7.	7.	7.	7.	7.	7.	7.	7.	7.	7.
7.	6.	6.	6.	6.	6.	6.	6.	6.	6.
6.	6.	6.	6.	6.	6.	6.	5.	5.	5.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
5.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	4.	4.	3.	3.	3.	3.	3.	3.

1.	3.	3.	3.	3.	2.	2.	2.	2.	2.
				STAGE					
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.1	657.1	657.1	657.1
657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1
657.1	657.1	657.1	657.1	657.1	657.2	657.2	657.2	657.2	657.2
657.3	657.3	657.3	657.3	657.4	657.4	657.4	657.4	657.4	657.5
657.5	657.5	657.5	657.5	657.6	657.6	657.6	657.6	657.6	657.6
657.7	657.7	657.7	657.7	657.7	657.7	657.8	657.8	657.8	657.8
657.8	657.8	657.8	657.8	657.9	657.9	657.9	657.9	657.9	657.9
657.9	657.9	657.9	657.9	658.0	658.0	658.0	658.0	658.0	658.0
658.0	658.0	658.0	658.0	658.0	658.0	658.0	658.1	658.1	658.1
658.1	658.1	658.1	658.1	658.2	658.2	658.2	658.3	658.3	658.3
658.4	658.4	658.5	658.5	658.6	658.6	658.6	658.7	658.7	658.8
658.8	658.9	658.9	659.0	659.0	659.0	659.1	659.1	659.2	659.2
659.3	659.3	659.4	659.4	659.5	659.5	659.6	659.6	659.7	659.8
659.9	660.0	660.0	660.1	660.2	660.2	660.3	660.4	660.5	660.5
660.6	660.7	660.7	660.8	660.8	660.9	660.9	660.9	660.9	660.9
660.9	660.9	660.9	660.9	660.9	660.8	660.8	660.8	660.8	660.8
660.8	660.7	660.7	660.7	660.7	660.7	660.7	660.7	660.7	660.6
660.6	660.6	660.6	660.6	660.6	660.6	660.6	660.6	660.5	660.5
660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5
660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5	660.5
660.5	660.5	660.5	660.5	660.4	660.4	660.4	660.4	660.4	660.4
660.4	660.4	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.2
660.2	660.2	660.2	660.2	660.2	660.1	660.1	660.1	660.1	660.1
660.1	660.0	660.0	660.0	659.9	659.9	659.8	659.8	659.7	659.7

PEAK OUTFLOW IS 323. AT TIME 17.42 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	323.	281.	117.	112.	33651.
CMS	9.	8.	3.	3.	953.
INCHES		.42	.69	.69	.69
MM		10.60	17.63	17.63	17.63
AC-FT		139.	232.	232.	232.
THOUS CU M		172.	286.	286.	286.

STATION DAM 6, PLAN 1, RATIO 6

END-OF-PERIOD HYDROGRAPH ORDINATES

				OUTFLOW					
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

13.	12.	12.	12.	11.	11.	11.	10.	10.	9.
9.	9.	8.	8.	8.	8.	7.	7.	7.	6.
6.	6.	6.	5.	5.	5.	5.	5.	4.	4.

STAGE

657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.1	657.1	657.1
657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1
657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.1	657.2
657.2	657.2	657.2	657.2	657.2	657.3	657.3	657.3	657.4	657.4
657.4	657.5	657.5	657.5	657.6	657.6	657.7	657.7	657.7	657.8
657.8	657.8	657.9	657.9	657.9	658.0	658.0	658.0	658.0	658.1
658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.1	658.2
658.2	658.2	658.2	658.2	658.2	658.2	658.2	658.2	658.2	658.2
658.2	658.2	658.3	658.3	658.3	658.3	658.3	658.3	658.3	658.3
658.3	658.3	658.3	658.3	658.3	658.4	658.4	658.4	658.4	658.4
658.4	658.5	658.5	658.6	658.6	658.7	658.7	658.8	658.9	658.9
659.0	659.1	659.2	659.2	659.3	659.4	659.5	659.6	659.6	659.7
659.8	659.9	659.9	660.0	660.0	660.0	660.1	660.1	660.1	660.2
660.2	660.2	660.3	660.3	660.4	660.4	660.5	660.5	660.6	660.6
660.7	660.8	660.9	661.0	661.2	661.3	661.5	661.6	661.8	661.9
662.0	662.2	662.3	662.4	662.4	662.5	662.5	662.6	662.6	662.6
662.6	662.6	662.6	662.6	662.6	662.6	662.6	662.6	662.6	662.7
662.7	662.8	662.9	663.1	663.2	663.4	663.6	663.7	663.9	664.0
664.2	664.3	664.4	664.5	664.6	664.7	664.8	664.8	664.9	664.9
664.9	664.9	664.9	664.9	664.8	664.8	664.7	664.6	664.5	664.4
664.3	664.2	664.1	664.0	663.8	663.7	663.6	663.4	663.3	663.2
663.0	662.9	662.8	662.6	662.5	662.4	662.3	662.2	662.1	662.1
662.0	661.9	661.8	661.7	661.7	661.6	661.5	661.5	661.4	661.3
661.3	661.2	661.1	661.1	661.0	661.0	660.9	660.8	660.8	660.7
660.7	660.6	660.6	660.6	660.5	660.5	660.4	660.4	660.3	660.3

PEAK OUTFLOW IS 902. AT TIME 20.17 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	902.	681.	248.	238.	71331.
CMS	26.	19.	7.	7.	2020.
INCHES		1.01	1.47	1.47	1.47
MM		25.69	37.38	37.38	37.38
AC-FT		338.	491.	491.	491.
THOUS CU M		416.	606.	606.	606.

STATION DAM 6, PLAN 1, RATIO 6

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	1.	1.	1.	2.	2.
2.	3.	3.	4.	5.	6.	6.	7.	8.	9.
10.	11.	12.	13.	14.	15.	16.	18.	19.	20.
21.	22.	23.	24.	26.	27.	28.	29.	30.	32.
33.	35.	37.	39.	41.	43.	45.	48.	52.	56.
62.	69.	77.	86.	96.	108.	120.	133.	147.	161.
176.	190.	196.	203.	212.	222.	233.	245.	257.	269.
282.	294.	307.	320.	332.	345.	357.	369.	381.	393.
405.	416.	428.	439.	450.	461.	472.	483.	494.	505.
516.	527.	539.	551.	564.	578.	592.	608.	626.	645.
667.	691.	719.	752.	787.	824.	863.	903.	957.	1013.
1064.	1110.	1152.	1191.	1226.	1259.	1290.	1319.	1347.	1376.
1405.	1435.	1468.	1504.	1543.	1585.	1631.	1680.	1732.	1787.
1843.	1901.	1960.	2021.	2082.	2110.	2141.	2177.	2215.	2258.
2304.	2354.	2410.	2471.	2541.	2622.	2717.	2825.	2949.	3090.
3254.	3440.	3646.	3907.	4203.	4498.	4785.	5063.	5331.	5590.
5846.	6015.	6174.	6351.	6544.	6752.	6970.	7195.	7418.	7636.
7842.	8033.	8205.	8357.	8488.	8599.	8696.	8778.	8840.	8885.
8915.	8935.	8947.	8954.	8958.	8959.	8959.	8957.	8953.	8946.
8937.	8923.	8903.	8877.	8842.	8798.	8743.	8677.	8606.	8528.
8440.	8342.	8236.	8120.	7998.	7870.	7736.	7598.	7457.	7314.
7169.	7023.	6874.	6724.	6573.	6421.	6270.	6119.	5970.	5768.
5527.	5310.	5113.	4934.	4768.	4612.	4465.	4325.	4190.	4059.
3932.	3808.	3696.	3603.	3509.	3415.	3321.	3228.	3136.	3044.
2954.	2865.	2778.	2692.	2607.	2525.	2445.	2368.	2294.	2223.
2154.	2087.	1945.	1823.	1722.	1635.	1559.	1492.	1432.	1376.
1324.	1273.	1224.	1175.	1127.	1079.	1033.	988.	943.	906.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	2.	2.	2.	2.	2.	2.
2.	3.	3.	3.	3.	4.	4.	5.	5.	5.
6.	6.	7.	7.	8.	8.	9.	9.	9.	10.
10.	11.	11.	12.	12.	12.	13.	13.	13.	14.
14.	15.	15.	16.	16.	17.	17.	18.	18.	19.
20.	21.	22.	23.	24.	25.	27.	28.	30.	31.
32.	33.	34.	35.	36.	36.	37.	38.	38.	39.
39.	40.	41.	42.	43.	44.	45.	46.	47.	48.
49.	51.	52.	53.	55.	56.	58.	60.	62.	64.
67.	69.	72.	76.	80.	84.	89.	95.	102.	110.
118.	129.	140.	152.	164.	176.	188.	199.	211.	221.
232.	243.	255.	268.	282.	298.	314.	331.	348.	364.
380.	394.	407.	419.	428.	437.	443.	449.	453.	456.
458.	459.	460.	460.	460.	461.	460.	460.	460.	460.
459.	458.	457.	455.	453.	450.	447.	442.	437.	431.
425.	417.	409.	401.	392.	382.	372.	362.	351.	340.
329.	318.	307.	296.	285.	273.	262.	251.	239.	229.
219.	210.	202.	194.	187.	181.	175.	169.	163.	158

153.	148.	143.	137.	132.	127.	122.	117.	112.	107.
102.	97.	92.	88.	83.	79.	74.	70.	66.	62.
58.	55.	52.	49.	47.	45.	43.	41.	40.	39.
38.	37.	35.	34.	33.	32.	31.	30.	29.	28.

STAGE

657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.1
657.1	657.1	657.1	657.1	657.1	657.2	657.2	657.2	657.2	657.3
657.3	657.3	657.4	657.4	657.4	657.5	657.5	657.5	657.6	657.6
657.6	657.7	657.7	657.7	657.9	657.8	657.8	657.9	657.9	658.0
658.0	658.0	658.1	658.1	658.1	658.1	658.2	658.2	658.2	658.3
658.4	658.5	658.6	658.7	658.8	658.9	659.1	659.3	659.5	659.6
659.8	660.0	660.0	660.1	660.2	660.2	660.3	660.4	660.5	660.5
660.6	660.7	660.8	660.9	661.0	661.1	661.2	661.2	661.3	661.4
661.5	661.6	661.6	661.7	661.8	661.9	661.9	662.0	662.1	662.2
662.2	662.3	662.4	662.5	662.6	662.7	662.8	662.9	663.0	663.1
663.3	663.5	663.6	663.9	664.1	664.4	664.6	664.9	665.2	665.4
665.6	665.8	666.0	666.2	666.3	666.5	666.6	666.7	666.9	667.0
667.1	667.2	667.4	667.5	667.7	667.9	668.1	668.3	668.5	668.7
669.0	669.2	669.5	669.7	670.0	670.1	670.2	670.3	670.4	670.5
670.7	670.8	671.0	671.2	671.4	671.6	671.9	672.3	672.6	673.1
673.6	674.1	674.7	675.4	676.1	676.8	677.4	678.1	678.7	679.3
679.9	680.2	680.5	680.8	681.2	681.6	682.0	682.4	682.8	683.2
683.5	683.9	684.2	684.5	684.7	684.9	685.1	685.2	685.3	685.4
685.4	685.5	685.5	685.5	685.5	685.5	685.5	685.5	685.5	685.5
685.5	685.4	685.4	685.4	685.3	685.2	685.2	685.1	684.9	684.8
684.6	684.5	684.3	684.0	683.8	683.6	683.3	683.1	682.8	682.6
682.3	682.0	681.8	681.5	681.2	681.0	680.7	680.4	680.1	679.7
679.1	678.6	678.2	677.8	677.4	677.0	676.7	676.4	676.1	675.8
675.5	675.2	674.9	674.6	674.3	674.0	673.8	673.5	673.2	672.9
672.6	672.4	672.1	671.9	671.6	671.3	671.1	670.9	670.6	670.4
670.2	670.0	669.4	668.9	668.5	668.1	667.8	667.5	667.2	667.0
666.8	666.5	666.3	666.1	665.9	665.7	665.5	665.3	665.1	664.9

PEAK OUTFLOW IS 8959. AT TIME 18.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	8959.	7401.	2616.	2511.	753382.
CMS	254.	210.	74.	71.	21333.
INCHES		10.99	15.54	15.54	15.54
MM		279.21	394.75	394.75	394.75
AC-FT		3670.	5189.	5189.	5189.
THOUS CU M		4527.	6400.	6400.	6400.

STATION DAM 6, PLAN 1, RATIO 7

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	1.	1.	1.	2.	2.	3.	4.
5.	6.	7.	8.	10.	11.	13.	14.	16.	18.
20.	22.	24.	26.	28.	30.	33.	37.	41.	44.
47.	49.	52.	54.	57.	59.	62.	64.	67.	69.
71.	74.	77.	80.	83.	87.	92.	98.	106.	116.
128.	142.	159.	179.	194.	205.	218.	235.	255.	277.
301.	327.	354.	382.	410.	440.	469.	498.	528.	557.
585.	614.	642.	669.	696.	723.	750.	777.	803.	830.
858.	886.	916.	966.	1018.	1069.	1121.	1172.	1224.	1278.
1335.	1389.	1449.	1512.	1579.	1651.	1731.	1819.	1919.	2034.
2122.	2199.	2292.	2397.	2509.	2625.	2742.	2856.	2966.	3069.
3165.	3251.	3329.	3393.	3448.	3494.	3531.	3561.	3585.	3606.
3626.	3647.	3671.	3700.	3738.	3794.	3859.	3933.	4016.	4107.
4205.	4308.	4416.	4530.	4650.	4777.	4912.	5052.	5199.	5352.
5509.	5670.	5832.	5993.	6049.	6152.	6261.	6377.	6500.	6629.
6765.	6907.	7056.	7211.	7372.	7539.	7715.	7905.	8113.	8348.
8618.	8981.	9412.	9914.	10124.	10874.	12307.	13410.	14617.	15778.
16914.	17686.	18283.	18915.	19307.	19585.	19772.	19887.	19943.	19950.
19923.	19871.	19801.	19717.	19620.	19511.	19390.	19256.	19105.	18934.
18739.	18515.	18260.	17972.	17649.	17293.	16908.	16498.	16069.	15631.
15192.	14755.	14321.	13896.	13487.	13100.	12736.	12393.	11895.	11466.
11111.	10813.	10560.	10349.	10177.	10045.	9957.	9915.	9674.	9430.
9189.	8950.	8714.	8502.	8300.	8099.	7898.	7699.	7500.	7301.
7102.	6906.	6712.	6521.	6336.	6156.	5984.	5759.	5489.	5245.
5022.	4817.	4627.	4450.	4283.	4126.	3977.	3836.	3707.	3607.
3508.	3412.	3317.	3224.	3134.	3046.	2960.	2877.	2796.	2718.
2641.	2567.	2496.	2428.	2362.	2299.	2237.	2176.	2117.	2027.

STORAGE

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	2.	2.	2.	2.
2.	2.	2.	2.	3.	3.	4.	4.	5.	6.
7.	7.	8.	9.	11.	12.	13.	14.	15.	16.
17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
27.	28.	29.	30.	31.	32.	33.	34.	35.	37.
38.	39.	40.	42.	43.	45.	47.	49.	51.	54.
57.	61.	66.	72.	78.	84.	91.	97.	103.	108.
114.	118.	122.	126.	129.	132.	134.	135.	137.	138.
139.	140.	141.	143.	145.	147.	150.	153.	156.	160.
164.	168.	173.	177.	182.	188.	193.	199.	205.	211.
218.	225.	231.	238.	245.	253.	261.	270.	279.	289.
299.	310.	321.	333.	345.	357.	370.	385.	400.	416.
438.	462.	490.	522.	560.	603.	645.	684.	720.	751.
777.	798.	814.	826.	834.	840.	844.	847.	848.	848.
848.	847.	845.	843.	841.	839.	836.	833.	830.	826.
822.	817.	811.	805.	797.	789.	780.	770.	759.	747.
736.	724.	712.	699.	687.	674.	661.	648.	635.	623.
612.	601.	589.	578.	565.	552.	538.	523.	507.	489.

475.	460.	445.	429.	414.	399.	384.	369.	354.	339.
324.	310.	295.	281.	267.	253.	240.	228.	217.	207.
198.	189.	181.	174.	167.	161.	155.	149.	143.	138.
132.	127.	122.	117.	112.	107.	102.	98.	93.	89.
85.	81.	77.	73.	70.	66.	6?.	60.	56.	53.

STAGE

657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0	657.0
657.0	657.0	657.0	657.0	657.0	657.0	657.1	657.1	657.1	657.1
657.1	657.2	657.2	657.2	657.3	657.3	657.4	657.4	657.5	657.5
657.6	657.7	657.7	657.8	657.9	657.9	658.0	658.1	658.1	658.1
658.2	658.2	658.2	658.3	658.3	658.3	658.4	658.4	658.4	658.5
658.5	658.5	658.6	658.6	658.6	658.7	658.8	658.8	658.9	659.1
659.2	659.4	659.6	659.9	660.0	660.1	660.2	660.3	660.4	660.6
660.8	660.9	661.1	661.3	661.5	661.7	661.9	662.1	662.3	662.5
662.7	662.9	663.1	663.3	663.5	663.7	663.9	664.0	664.2	664.4
664.6	664.8	665.0	665.2	665.4	665.7	665.9	666.1	666.3	666.6
666.8	667.0	667.3	667.6	667.8	668.2	668.5	668.9	669.3	669.8
670.1	670.4	670.6	671.0	671.3	671.6	672.0	672.3	672.7	673.0
673.3	673.6	673.8	674.0	674.1	674.3	674.4	674.5	674.6	674.6
674.7	674.8	674.8	674.9	675.0	675.2	675.3	675.5	675.7	675.9
676.1	676.3	676.6	676.8	677.1	677.4	677.7	678.1	678.4	678.7
679.1	679.5	679.8	680.1	680.3	680.5	680.7	680.9	681.1	681.3
681.6	681.8	682.1	682.4	682.7	683.0	683.3	683.7	684.0	684.5
685.0	685.5	686.2	687.0	687.9	689.0	690.0	690.5	691.0	691.4
691.8	692.1	692.3	692.5	692.6	692.7	692.7	692.7	692.8	692.8
692.8	692.7	692.7	692.7	692.7	692.6	692.6	692.6	692.5	692.5
692.4	692.3	692.3	692.2	692.1	692.0	691.8	691.7	691.5	691.4
691.2	691.1	690.9	690.7	690.6	690.4	690.2	690.0	689.7	689.4
689.2	686.9	686.6	688.3	688.0	687.7	687.4	687.0	686.6	686.2
685.9	685.5	685.1	684.7	684.4	684.0	683.6	683.3	682.9	682.6
682.2	681.8	681.5	681.1	680.8	680.5	680.2	679.7	679.1	678.5
678.0	677.5	677.1	676.7	676.3	675.9	675.6	675.2	674.9	674.6
674.3	674.0	673.8	673.5	673.2	672.9	672.7	672.4	672.2	671.9
671.7	671.5	671.3	671.0	670.8	670.7	670.5	670.3	670.1	669.8

PEAK OUTFLOW IS 19950. AT TIME 17.50 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	19950.	13994.	5111.	4907.	1472008.
CMS	565.	396.	145.	139.	41683.
INCHES		20.78	30.37	30.37	30.37
MM		527.94	771.29	771.29	771.29
AC-FT		6979.	10138.	10138.	10138.
THOUS CU M		8559.	12505.	12505.	12505.

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SUB-AREA RUNOFF COMPUTATION

INFLOW TO MOON VALLEY LAKE

	ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
	AREA 7	0	0	0	0	3	1	0	0

HYDROGRAPH DATA

IHYDG	IUNG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	2	.30	.00	.30	1.00	.000	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
.00	24.80	101.00	120.00	130.00	.00	.00	.00

LOSS DATA

LROPT	STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0	.00	.00	1.00	.00	.00	1.00	-1.00	-86.00	.00	.00

CURVE NO = -86.00 WETNESS = -1.00 EFFECT CN = 86.00

UNIT HYDROGRAPH DATA
TC= .00 LAG= .45

RECESSION DATA
STRTQ= .00 QRCSN= .00 RTIOR= 1.00

UNIT HYDROGRAPH 29 END OF PERIOD ORDINATES, TC= .00 HOURS, LAG= .45 VOL= 1.00

23.	71.	146.	234.	284.	295.	276.	239.	189.	135.
102.	78.	60.	45.	34.	26.	20.	15.	11.	8.
6.	5.	4.	3.	2.	2.	1.	1.	0.	

0 END-OF-PERIOD FLOW

MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q	MO.DA	HR.MN	PERIOD	RAIN	EXCS	LOSS	COMP Q
1.01	.05	1	.01	.00	.01	0.	1.01	12.35	151	.21	.20	.01	325.
1.01	.10	2	.01	.00	.01	0.	1.01	12.40	152	.21	.20	.01	358.
1.01	.15	3	.01	.00	.01	0.	1.01	12.45	153	.21	.20	.01	385.
1.01	.20	4	.01	.00	.01	0.	1.01	12.50	154	.21	.20	.01	404.
1.01	.25	5	.01	.00	.01	0.	1.01	12.55	155	.21	.20	.01	419.
1.01	.30	6	.01	.00	.01	0.	1.01	13.00	156	.21	.20	.01	430.
1.01	.35	7	.01	.00	.01	0.	1.01	13.05	157	.25	.24	.01	440.
1.01	.40	8	.01	.00	.01	0.	1.01	13.10	158	.25	.24	.01	450.
1.01	.45	9	.01	.00	.01	0.	1.01	13.15	159	.25	.24	.01	461.
1.01	.50	10	.01	.00	.01	0.	1.01	13.20	160	.25	.24	.01	475.
1.01	.55	11	.01	.00	.01	0.	1.01	13.25	161	.25	.24	.01	490.
1.01	1.00	12	.01	.00	.01	0.	1.01	13.30	162	.25	.24	.01	505.
1.01	1.05	13	.01	.00	.01	0.	1.01	13.35	163	.25	.25	.01	518.
1.01	1.10	14	.01	.00	.01	0.	1.01	13.40	164	.25	.25	.01	530.
1.01	1.15	15	.01	.00	.01	0.	1.01	13.45	165	.25	.25	.00	539.
1.01	1.20	16	.01	.00	.01	0.	1.01	13.50	166	.25	.25	.00	546.
1.01	1.25	17	.01	.00	.01	0.	1.01	13.55	167	.25	.25	.00	551.
1.01	1.30	18	.01	.00	.01	0.	1.01	14.00	168	.25	.25	.00	555.
1.01	1.35	19	.01	.00	.01	0.	1.01	14.05	169	.31	.31	.01	560.
1.01	1.40	20	.01	.00	.01	0.	1.01	14.10	170	.31	.31	.00	567.
1.01	1.45	21	.01	.00	.01	0.	1.01	14.15	171	.31	.31	.00	578.
1.01	1.50	22	.01	.00	.01	0.	1.01	14.20	172	.31	.31	.00	594.

1.01	1.55	23	.01	.00	.01	0.	1.01	14.25	173	.31	.31	.00	613.
1.01	2.00	24	.01	.00	.01	0.	1.01	14.30	174	.31	.31	.00	632.
1.01	2.05	25	.01	.00	.01	0.	1.01	14.35	175	.31	.31	.00	650.
1.01	2.10	26	.01	.00	.01	0.	1.01	14.40	176	.31	.31	.00	666.
1.01	2.15	27	.01	.00	.01	0.	1.01	14.45	177	.31	.31	.00	678.
1.01	2.20	28	.01	.00	.01	0.	1.01	14.50	178	.31	.31	.00	687.
1.01	2.25	29	.01	.00	.01	0.	1.01	14.55	179	.31	.31	.00	694.
1.01	2.30	30	.01	.00	.01	1.	1.01	15.00	180	.31	.31	.00	700.
1.01	2.35	31	.01	.00	.01	1.	1.01	15.05	181	.19	.19	.00	701.
1.01	2.40	32	.01	.00	.01	1.	1.01	15.10	182	.38	.38	.00	700.
1.01	2.45	33	.01	.00	.01	2.	1.01	15.15	183	.38	.38	.00	698.
1.01	2.50	34	.01	.00	.01	2.	1.01	15.20	184	.57	.57	.00	703.
1.01	2.55	35	.01	.00	.01	2.	1.01	15.25	185	.67	.66	.01	730.
1.01	3.00	36	.01	.00	.01	3.	1.01	15.30	186	1.62	1.61	.01	806.
1.01	3.05	37	.01	.00	.01	3.	1.01	15.35	187	2.67	2.65	.02	978.
1.01	3.10	38	.01	.00	.01	4.	1.01	15.40	188	1.05	1.04	.01	1251.
1.01	3.15	39	.01	.00	.01	4.	1.01	15.45	189	.67	.66	.00	1607.
1.01	3.20	40	.01	.00	.01	4.	1.01	15.50	190	.57	.57	.00	1957.
1.01	3.25	41	.01	.00	.01	5.	1.01	15.55	191	.38	.38	.00	2175.
1.01	3.30	42	.01	.00	.01	5.	1.01	16.00	192	.38	.38	.00	2239.
1.01	3.35	43	.01	.00	.01	6.	1.01	16.05	193	.29	.29	.00	2170.
1.01	3.40	44	.01	.00	.01	6.	1.01	16.10	194	.29	.29	.00	2003.
1.01	3.45	45	.01	.00	.01	6.	1.01	16.15	195	.29	.29	.00	1773.
1.01	3.50	46	.01	.00	.01	7.	1.01	16.20	196	.29	.29	.00	1535.
1.01	3.55	47	.01	.00	.01	7.	1.01	16.25	197	.29	.29	.00	1343.
1.01	4.00	48	.01	.00	.01	8.	1.01	16.30	198	.29	.29	.00	1189.
1.01	4.05	49	.01	.00	.01	8.	1.01	16.35	199	.29	.29	.00	1067.
1.01	4.10	50	.01	.00	.01	8.	1.01	16.40	200	.29	.29	.00	971.
1.01	4.15	51	.01	.00	.01	9.	1.01	16.45	201	.29	.29	.00	899.
1.01	4.20	52	.01	.00	.01	9.	1.01	16.50	202	.29	.29	.00	845.
1.01	4.25	53	.01	.00	.01	9.	1.01	16.55	203	.29	.29	.00	803.
1.01	4.30	54	.01	.00	.01	10.	1.01	17.00	204	.29	.29	.00	772.
1.01	4.35	55	.01	.01	.01	10.	1.01	17.05	205	.23	.23	.00	747.
1.01	4.40	56	.01	.01	.01	10.	1.01	17.10	206	.23	.23	.00	724.
1.01	4.45	57	.01	.01	.01	11.	1.01	17.15	207	.23	.23	.00	702.
1.01	4.50	58	.01	.01	.01	11.	1.01	17.20	208	.23	.23	.00	677.
1.01	4.55	59	.01	.01	.01	11.	1.01	17.25	209	.23	.23	.00	652.
1.01	5.00	60	.01	.01	.01	11.	1.01	17.30	210	.23	.23	.00	627.
1.01	5.05	61	.01	.01	.01	12.	1.01	17.35	211	.23	.23	.00	606.
1.01	5.10	62	.01	.01	.01	12.	1.01	17.40	212	.23	.23	.00	587.
1.01	5.15	63	.01	.01	.01	12.	1.01	17.45	213	.23	.23	.00	572.
1.01	5.20	64	.01	.01	.01	12.	1.01	17.50	214	.23	.23	.00	561.
1.01	5.25	65	.01	.01	.01	13.	1.01	17.55	215	.23	.23	.00	552.
1.01	5.30	66	.01	.01	.01	13.	1.01	18.00	216	.23	.23	.00	546.
1.01	5.35	67	.01	.01	.01	13.	1.01	18.05	217	.02	.02	.00	537.
1.01	5.40	68	.01	.01	.01	13.	1.01	18.10	218	.02	.02	.00	519.
1.01	5.45	69	.01	.01	.01	14.	1.01	18.15	219	.02	.02	.00	486.
1.01	5.50	70	.01	.01	.01	14.	1.01	18.20	220	.02	.02	.00	436.
1.01	5.55	71	.01	.01	.01	14.	1.01	18.25	221	.02	.02	.00	376.
1.01	6.00	72	.01	.01	.01	14.	1.01	18.30	222	.02	.02	.00	313.
1.01	6.05	73	.07	.03	.03	15.	1.01	18.35	223	.02	.02	.00	255.
1.01	6.10	74	.07	.04	.03	17.	1.01	18.40	224	.02	.02	.00	205.
1.01	6.15	75	.07	.04	.03	22.	1.01	18.45	225	.02	.02	.00	165.
1.01	6.20	76	.07	.04	.03	26.	1.01	18.50	226	.02	.02	.00	136.
1.01	6.25	77	.07	.04	.03	37.	1.01	18.55	227	.02	.02	.00	115.
1.01	6.30	78	.07	.04	.02	46.	1.01	19.00	228	.02	.02	.00	99.

1.01	6.35	79	.07	.04	.02	55.	1.01	19.05	229	.02	.02	.00	86.
1.01	6.40	80	.07	.04	.02	63.	1.01	19.10	230	.02	.02	.00	77.
1.01	6.45	81	.07	.04	.02	71.	1.01	19.15	231	.02	.02	.00	69.
1.01	6.50	82	.07	.05	.02	77.	1.01	19.20	232	.02	.02	.00	64.
1.01	6.55	83	.07	.05	.02	82.	1.01	19.25	233	.02	.02	.00	60.
1.01	7.00	84	.07	.05	.02	87.	1.01	19.30	234	.02	.02	.00	57.
1.01	7.05	85	.07	.05	.02	91.	1.01	19.35	235	.02	.02	.00	54.
1.01	7.10	86	.07	.05	.02	94.	1.01	19.40	236	.02	.02	.00	53.
1.01	7.15	87	.07	.05	.02	97.	1.01	19.45	237	.02	.02	.00	51.
1.01	7.20	88	.07	.05	.02	100.	1.01	19.50	238	.02	.02	.00	50.
1.01	7.25	89	.07	.05	.02	103.	1.01	19.55	239	.02	.02	.00	50.
1.01	7.30	90	.07	.05	.01	105.	1.01	20.00	240	.02	.02	.00	49.
1.01	7.35	91	.07	.05	.01	107.	1.01	20.05	241	.02	.02	.00	48.
1.01	7.40	92	.07	.05	.01	109.	1.01	20.10	242	.02	.02	.00	48.
1.01	7.45	93	.07	.05	.01	111.	1.01	20.15	243	.02	.02	.00	48.
1.01	7.50	94	.07	.05	.01	113.	1.01	20.20	244	.02	.02	.00	48.
1.01	7.55	95	.07	.05	.01	114.	1.01	20.25	245	.02	.02	.00	48.
1.01	8.00	96	.07	.05	.01	116.	1.01	20.30	246	.02	.02	.00	48.
1.01	8.05	97	.07	.05	.01	117.	1.01	20.35	247	.02	.02	.00	48.
1.01	8.10	98	.07	.05	.01	119.	1.01	20.40	248	.02	.02	.00	48.
1.01	8.15	99	.07	.05	.01	120.	1.01	20.45	249	.02	.02	.00	48.
1.01	8.20	100	.07	.06	.01	121.	1.01	20.50	250	.02	.02	.00	48.
1.01	8.25	101	.07	.06	.01	122.	1.01	20.55	251	.02	.02	.00	48.
1.01	8.30	102	.07	.06	.01	123.	1.01	21.00	252	.02	.02	.00	48.
1.01	8.35	103	.07	.06	.01	124.	1.01	21.05	253	.02	.02	.00	48.
1.01	8.40	104	.07	.06	.01	125.	1.01	21.10	254	.02	.02	.00	48.
1.01	8.45	105	.07	.06	.01	126.	1.01	21.15	255	.02	.02	.00	48.
1.01	8.50	106	.07	.06	.01	127.	1.01	21.20	256	.02	.02	.00	48.
1.01	8.55	107	.07	.06	.01	128.	1.01	21.25	257	.02	.02	.00	48.
1.01	9.00	108	.07	.06	.01	128.	1.01	21.30	258	.02	.02	.00	48.
1.01	9.05	109	.07	.06	.01	129.	1.01	21.35	259	.02	.02	.00	48.
1.01	9.10	110	.07	.06	.01	130.	1.01	21.40	260	.02	.02	.00	48.
1.01	9.15	111	.07	.06	.01	130.	1.01	21.45	261	.02	.02	.00	48.
1.01	9.20	112	.07	.06	.01	131.	1.01	21.50	262	.02	.02	.00	48.
1.01	9.25	113	.07	.06	.01	132.	1.01	21.55	263	.02	.02	.00	48.
1.01	9.30	114	.07	.06	.01	132.	1.01	22.00	264	.02	.02	.00	48.
1.01	9.35	115	.07	.06	.01	133.	1.01	22.05	265	.02	.02	.00	48.
1.01	9.40	116	.07	.06	.01	133.	1.01	22.10	266	.02	.02	.00	48.
1.01	9.45	117	.07	.06	.01	134.	1.01	22.15	267	.02	.02	.00	48.
1.01	9.50	118	.07	.06	.01	134.	1.01	22.20	268	.02	.02	.00	48.
1.01	9.55	119	.07	.06	.01	135.	1.01	22.25	269	.02	.02	.00	48.
1.01	10.00	120	.07	.06	.01	135.	1.01	22.30	270	.02	.02	.00	48.
1.01	10.05	121	.07	.06	.01	136.	1.01	22.35	271	.02	.02	.00	48.
1.01	10.10	122	.07	.06	.01	136.	1.01	22.40	272	.02	.02	.00	48.
1.01	10.15	123	.07	.06	.01	136.	1.01	22.45	273	.02	.02	.00	48.
1.01	10.20	124	.07	.06	.01	137.	1.01	22.50	274	.02	.02	.00	48.
1.01	10.25	125	.07	.06	.01	137.	1.01	22.55	275	.02	.02	.00	48.
1.01	10.30	126	.07	.06	.01	137.	1.01	23.00	276	.02	.02	.00	48.
1.01	10.35	127	.07	.06	.01	138.	1.01	23.05	277	.02	.02	.00	48.
1.01	10.40	128	.07	.06	.00	138.	1.01	23.10	278	.02	.02	.00	48.
1.01	10.45	129	.07	.06	.00	138.	1.01	23.15	279	.02	.02	.00	48.
1.01	10.50	130	.07	.06	.00	139.	1.01	23.20	280	.02	.02	.00	48.
1.01	10.55	131	.07	.06	.00	139.	1.01	23.25	281	.02	.02	.00	48.
1.01	11.00	132	.07	.06	.00	139.	1.01	23.30	282	.02	.02	.00	48.
1.01	11.05	133	.07	.06	.00	140.	1.01	23.35	283	.02	.02	.00	48.
1.01	11.10	134	.07	.06	.00	140.	1.01	23.40	284	.02	.02	.00	48.

1.01	11.15	135	.07	.06	.00	140.	1.01	23.45	285	.02	.02	.00	48.
1.01	11.20	136	.07	.06	.00	140.	1.01	23.50	286	.02	.02	.00	48.
1.01	11.25	137	.07	.06	.00	141.	1.01	23.55	287	.02	.02	.00	48.
1.01	11.30	138	.07	.06	.00	141.	1.02	.00	288	.02	.02	.00	48.
1.01	11.35	139	.07	.06	.00	141.	1.02	.05	289	.00	.00	.00	47.
1.01	11.40	140	.07	.06	.00	141.	1.02	.10	290	.00	.00	.00	46.
1.01	11.45	141	.07	.06	.00	141.	1.02	.15	291	.00	.00	.00	43.
1.01	11.50	142	.07	.06	.00	142.	1.02	.20	292	.00	.00	.00	38.
1.01	11.55	143	.07	.06	.00	142.	1.02	.25	293	.00	.00	.00	32.
1.01	12.00	144	.07	.06	.00	142.	1.02	.30	294	.00	.00	.00	26.
1.01	12.05	145	.21	.20	.01	145.	1.02	.35	295	.00	.00	.00	20.
1.01	12.10	146	.21	.20	.01	155.	1.02	.40	296	.00	.00	.00	15.
1.01	12.15	147	.21	.20	.01	175.	1.02	.45	297	.00	.00	.00	11.
1.01	12.20	148	.21	.20	.01	207.	1.02	.50	298	.00	.00	.00	9.
1.01	12.25	149	.21	.20	.01	246.	1.02	.55	299	.00	.00	.00	7.
1.01	12.30	150	.21	.20	.01	287.	1.02	1.00	300	.00	.00	.00	5.
									SUM	32.24	30.37	1.87	70267.
										(819.)(	771.)(	48.)(	1989.74)

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2239.	780.	244.	234.	70256.
CMS	63.	22.	7.	7.	1969.
INCHES		24.25	30.36	30.36	30.36
MM		616.02	771.09	771.09	771.09
AC-FT		387.	484.	484.	484.
THOUS CU M		477.	597.	597.	597.

HYDROGRAPH AT STAAREA 7 FOR PLAN 1, RTIO 1

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	22.	8.	2.	2.	703.
CMS	1.	0.	0.	0.	20.
INCHES		.24	.30	.30	.30
MM		6.16	7.71	7.71	7.71
AC-FT		4.	5.	5.	5.
THOUS CU M		5.	6.	6.	6.

HYDROGRAPH AT STAAREA 7 FOR PLAN 1, RTIO 2

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	45.	16.	5.	5.	1405.
CMS	1.	0.	0.	0.	40.
INCHES		.49	.61	.61	.61
MM		12.32	15.42	15.42	15.42
AC-FT		8.	10.	10.	10.
THOUS CU M		10.	12.	12.	12.

HYDROGRAPH AT STAAREA 7 FOR PLAN 1, RTIO 3

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	67.	23.	7.	7.	2108.
CMS	2.	1.	0.	0.	60.
INCHES		.73	.91	.91	.91
MM		18.48	23.13	23.13	23.13
AC-FT		12.	15.	15.	15.
THOUS CU M		14.	18.	18.	18.

HYDROGRAPH AT STAAREA 7 FOR PLAN 1, RTIO 4

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	90.	31.	10.	9.	2810.
CMS	3.	1.	0.	0.	80.
INCHES		.97	1.21	1.21	1.21
MM		24.64	30.84	30.84	30.84
AC-FT		15.	19.	19.	19.
THOUS CU M		19.	24.	24.	24.

HYDROGRAPH AT STAAREA 7 FOR PLAN 1, RTIO 5

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	112.	39.	12.	12.	3513.
CMS	3.	1.	0.	0.	99.
INCHES		1.21	1.52	1.52	1.52
MM		30.80	38.55	38.55	38.55
AC-FT		19.	24.	24.	24.
THOUS CU M		24.	30.	30.	30.

HYDROGRAPH AT STAAREA 7 FOR PLAN 1, RTIO 6

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1120.	390.	122.	117.	35128.
CMS	32.	11.	3.	3.	995.
INCHES		12.13	15.18	15.18	15.18
MM		308.01	385.55	385.55	385.55
AC-FT		193.	242.	242.	242.
THOUS CU M		238.	298.	298.	298.

HYDROGRAPH AT STAAREA 7 FOR PLAN 1, RTIO 7

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2239.	780.	244.	234.	70256.
CMS	63.	22.	7.	7.	1989.
INCHES		24.25	30.36	30.36	30.36
MM		616.02	771.09	771.09	771.09
AC-FT		387.	484.	484.	484.
THOUS CU M		477.	597.	597.	597.

SUM OF 2 HYDROGRAPHS AT 7 PLAN 1 RTIO 2

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	2.
2.	2.	2.	2.	2.	2.	2.	3.	3.	3.
4.	4.	4.	5.	5.	5.	6.	6.	7.	7.
8.	8.	9.	10.	10.	11.	11.	12.	12.	13.
13.	14.	14.	14.	15.	15.	16.	16.	16.	17.
17.	18.	18.	18.	19.	19.	19.	20.	20.	20.
20.	21.	21.	21.	22.	22.	22.	22.	23.	23.
23.	23.	24.	24.	24.	24.	24.	25.	25.	25.
25.	25.	26.	26.	26.	27.	27.	28.	29.	30.
32.	33.	34.	35.	37.	38.	40.	42.	45.	48.
51.	54.	56.	59.	61.	63.	65.	68.	70.	72.
74.	76.	79.	81.	83.	86.	88.	90.	93.	95.
98.	100.	102.	105.	108.	112.	118.	127.	139.	150.
161.	169.	175.	181.	186.	191.	197.	203.	209.	211.
212.	214.	216.	218.	219.	220.	221.	220.	220.	218.
216.	214.	212.	210.	208.	206.	204.	202.	200.	194.
190.	187.	184.	181.	178.	176.	174.	172.	169.	167.
165.	163.	161.	159.	157.	156.	154.	153.	152.	151.
150.	150.	150.	150.	150.	150.	150.	150.	151.	151.
151.	152.	152.	152.	153.	153.	153.	153.	154.	154.
154.	154.	154.	154.	154.	154.	154.	153.	153.	153.
152.	152.	151.	151.	150.	149.	148.	148.	147.	146.
145.	144.	143.	142.	141.	139.	138.	137.	136.	134.
133.	131.	130.	128.	127.	125.	123.	122.	120.	119.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	221.	178.	78.	75.	22402.
CMS	6.	5.	2.	2.	634.
INCHES		.25	.44	.44	.44
MM		6.40	11.20	11.20	11.20
AC-FT		88.	154.	154.	154.
THOUS CU M		109.	190.	190.	190.

SUM OF 2 HYDROGRAPHS AT 7 PLAN 1 RTIO 3

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	2.
2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
2.	2.	3.	3.	3.	3.	4.	4.	4.	5.
5.	6.	6.	7.	8.	8.	9.	10.	10.	11.
12.	13.	13.	14.	15.	16.	17.	17.	18.	19.
20.	20.	21.	22.	22.	23.	24.	24.	25.	25.

26.	26.	27.	27.	28.	28.	29.	29.	30.	30.
31.	31.	31.	32.	32.	33.	33.	33.	34.	34.
34.	35.	35.	35.	36.	36.	36.	37.	37.	38.
38.	39.	39.	40.	40.	41.	42.	43.	45.	47.
49.	51.	54.	56.	59.	61.	64.	67.	71.	74.
78.	81.	85.	89.	93.	97.	100.	104.	108.	112.
115.	119.	123.	127.	131.	135.	139.	143.	147.	151.
154.	158.	161.	165.	169.	175.	184.	198.	214.	232.
247.	258.	261.	263.	265.	268.	274.	281.	289.	298.
307.	315.	323.	329.	335.	339.	341.	343.	343.	342.
340.	338.	335.	333.	330.	327.	324.	322.	318.	315.
311.	307.	303.	300.	297.	294.	292.	290.	287.	285.
283.	281.	279.	277.	276.	274.	273.	272.	271.	270.
269.	269.	269.	268.	268.	268.	268.	268.	268.	268.
268.	268.	267.	267.	267.	266.	265.	264.	264.	262.
261.	260.	259.	257.	256.	254.	252.	251.	249.	247.
245.	243.	241.	239.	237.	235.	233.	230.	228.	226.
224.	221.	219.	217.	214.	212.	209.	207.	205.	202.
200.	197.	194.	192.	186.	180.	176.	172.	169.	166.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	343.	290.	124.	119.	35759.
CMS	10.	8.	4.	3.	1013.
INCHES		.41	.70	.70	.70
MM		10.45	17.88	17.88	17.88
AC-FT		144.	246.	246.	246.
THOUS CU M		178.	304.	304.	304.

SUM OF 2 HYDROGRAPHS AT 7 PLAN 1 RTIO 4

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	2.	2.	2.	2.	2.	2.
2.	2.	2.	2.	3.	3.	3.	3.	3.	3.
3.	3.	3.	4.	4.	4.	5.	5.	6.	7.
7.	8.	9.	9.	10.	11.	12.	13.	14.	15.
16.	17.	18.	19.	20.	21.	22.	23.	24.	25.
26.	27.	28.	29.	30.	30.	31.	32.	33.	33.
34.	35.	36.	36.	37.	38.	38.	39.	40.	41.
42.	43.	43.	44.	44.	45.	45.	46.	46.	47.
47.	48.	48.	49.	49.	49.	50.	50.	51.	51.
52.	52.	53.	53.	54.	54.	56.	58.	60.	63.
66.	69.	72.	75.	79.	83.	87.	91.	96.	101.
107.	112.	117.	123.	128.	134.	139.	144.	149.	154.
159.	164.	170.	175.	180.	185.	190.	195.	200.	205.
210.	215.	219.	221.	225.	231.	242.	258.	278.	299.
316.	329.	338.	345.	351.	358.	368.	380.	392.	405.
418.	430.	441.	450.	457.	463.	467.	469.	469.	468.
466.	464.	461.	458.	455.	452.	449.	446.	443.	440.
436.	434.	431.	430.	430.	431.	433.	437.	443.	450.
459.	470.	483.	499.	519.	540.	563.	587.	609.	631.

THOUS CU M			424.	636.	636.		636.			

SUM OF 2 HYDROGRAPHS AT 7 PLAN 1 RTIO 6

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1.	1.	1.	1.	2.	2.	2.	3.	4.	4.
5.	6.	6.	7.	8.	9.	10.	11.	12.	13.
14.	15.	17.	18.	19.	20.	22.	23.	24.	26.
27.	28.	29.	31.	32.	33.	35.	36.	37.	39.
40.	42.	45.	48.	52.	57.	64.	71.	79.	88.
97.	107.	118.	129.	141.	155.	169.	183.	198.	214.
229.	245.	251.	260.	269.	280.	292.	304.	317.	330.
343.	356.	369.	382.	395.	408.	421.	433.	446.	458.
470.	482.	493.	505.	516.	528.	539.	550.	561.	572.
584.	595.	607.	620.	633.	646.	661.	677.	695.	715.
736.	760.	789.	821.	857.	895.	934.	973.	1027.	1084.
1135.	1181.	1223.	1262.	1299.	1337.	1377.	1423.	1471.	1519.
1567.	1614.	1660.	1706.	1752.	1800.	1851.	1905.	1963.	2024.
2088.	2154.	2220.	2286.	2351.	2383.	2417.	2454.	2496.	2541.
2593.	2651.	2716.	2787.	2866.	2955.	3056.	3169.	3296.	3440.
3604.	3790.	3995.	4259.	4568.	4900.	5274.	5689.	6134.	6569.
6933.	7135.	7260.	7352.	7430.	7519.	7642.	7789.	7952.	8121.
8292.	8455.	8607.	8743.	8862.	8961.	9047.	9117.	9166.	9198.
9218.	9228.	9233.	9235.	9234.	9232.	9227.	9216.	9196.	9164.
9125.	9079.	9031.	8979.	8925.	8866.	8801.	8727.	8649.	8566.
8475.	8374.	8265.	8149.	8025.	7896.	7762.	7623.	7482.	7338.
7193.	7047.	6898.	6748.	6597.	6445.	6293.	6143.	5994.	5792.
5551.	5334.	5137.	4957.	4791.	4636.	4489.	4349.	4214.	4083.
3956.	3832.	3720.	3627.	3533.	3439.	3345.	3252.	3160.	3068.
2978.	2889.	2802.	2716.	2631.	2549.	2469.	2392.	2318.	2247.
2178.	2111.	1969.	1847.	1745.	1658.	1583.	1516.	1455.	1399.
1345.	1292.	1240.	1188.	1137.	1087.	1039.	992.	947.	908.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	9235.	7674.	2738.	2628.	788510.
CMS	261.	217.	78.	74.	22328.
INCHES		10.88	15.52	15.52	15.52
MM		276.33	394.33	394.33	394.33
AC-FT		3805.	5431.	5431.	5431.
THOUS CU M		4694.	6698.	6698.	6698.

SUM OF 2 HYDROGRAPHS AT 7 PLAN 1 RTIO 7

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	2.	3.	3.	4.	5.	6.	7.	8.
10.	11.	13.	14.	16.	18.	20.	22.	24.	26.
29.	31.	33.	36.	38.	41.	43.	48.	52.	55.
58.	61.	64.	67.	70.	72.	75.	78.	80.	83.

86.	88.	92.	97.	104.	115.	129.	144.	161.	179.
199.	219.	241.	265.	285.	299.	316.	336.	358.	382.
40[illegible].	436.	465.	494.	525.	555.	586.	617.	647.	678.
707.	737.	766.	794.	822.	850.	877.	905.	932.	960.
98[illegible].	1016.	1047.	1099.	1150.	1202.	1254.	1306.	1359.	1413.
1468.	1525.	1585.	1648.	1716.	1789.	1869.	1957.	2058.	2173.
2261.	2338.	2431.	2537.	2650.	2766.	2882.	2997.	3107.	3211.
3307.	3393.	3469.	3535.	3594.	3649.	3706.	3768.	3832.	3893.
3951.	4005.	4056.	4104.	4157.	4224.	4299.	4383.	4477.	4582.
4695.	4813.	4934.	5060.	5189.	5323.	5463.	5608.	5759.	5919.
6087.	6264.	6445.	6585.	6700.	6818.	6940.	7064.	7194.	7328.
7466.	7607.	7754.	7914.	8102.	8344.	8693.	9156.	9721.	10305.
10793.	11220.	11583.	11917.	11896.	12409.	13650.	14599.	15683.	16749.
17713.	18530.	19186.	19687.	20056.	20309.	20474.	20564.	20594.	20578.
20529.	20458.	20373.	20277.	20172.	20057.	19927.	19775.	19591.	19370.
19114.	18828.	18515.	18176.	17814.	17430.	17023.	16596.	16155.	15708.
15261.	14818.	14381.	13952.	13541.	13153.	12787.	12444.	11945.	11515.
11160.	10861.	10608.	10396.	10225.	10093.	10005.	9962.	9721.	9478.
9237.	8998.	8762.	8550.	8348.	8146.	7946.	7747.	7548.	7348.
7150.	6953.	6759.	6569.	6383.	6204.	6032.	5867.	5537.	5292.
5069.	4865.	4675.	4497.	4331.	4174.	4025.	3883.	3755.	3655.
3556.	3459.	3365.	3272.	3182.	3094.	3008.	2925.	2844.	2764.
2684.	2605.	2528.	2454.	2383.	2314.	2248.	2185.	2123.	2032.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	20594.	14537.	5355.	5141.	1542264.
CMS	583.	412.	152.	146.	43672.
INCHES		20.61	30.37	30.37	30.37
MM		523.44	771.29	771.29	771.29
AC-FT		7208.	10622.	10622.	10622.
THOUS CU M		8892.	13102.	13102.	13102.

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HYDROGRAPH ROUTING

ROUTING THROUGH MOON VALLEY DAM

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME	ISTAGE	IAUTO
DAM 7	1	0	0	0	0	1	0	0

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME	IOPT	IPMP	LSTR
.0	.000	.00	1	1	0	0	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA	ISPRAT
1	0	0	.000	.000	.000	-650.	0

SURFACE AREA=	0.	16.	31.
CAPACITY=	0.	74.	304.
ELEVATION=	636.	650.	660.

	CREL	SPWID	COQW	EXPW	ELEVL	COQL	CAREA	EXPL
	650.0	.0	.0	.0	.0	.0	.0	.0

DAM DATA

TOPEL	COQD	EXPD	DAMWID
651.8	.0	.0	0.

CREST LENGTH AT OR BELOW ELEVATION	0.	61.	85.	99.	99.	151.	226.	318.	362.	465.
	650.0	650.1	650.3	650.4	651.8	653.2	653.8	654.4	656.0	660.0

STATION DAM 7, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	2.	2.	2.	2.	2.
2.	3.	3.	3.	3.	3.	4.	4.	4.	4.
5.	5.	5.	5.	6.	6.	6.	6.	7.	7.
7.	7.	7.	8.	8.	8.	8.	9.	9.	9.
9.	10.	10.	10.	11.	11.	12.	12.	12.	13.
13.	14.	15.	15.	16.	17.	18.	18.	19.	20.
21.	22.	23.	24.	25.	26.	27.	28.	29.	31.
32.	33.	35.	36.	37.	39.	40.	42.	44.	46.
49.	52.	55.	58.	61.	64.	67.	69.	72.	75.
78.	81.	84.	86.	89.	91.	92.	94.	95.	96.
96.	96.	96.	96.	96.	96.	95.	95.	94.	93.
93.	92.	91.	90.	89.	88.	87.	85.	84.	83.
82.	81.	79.	78.	77.	76.	74.	73.	72.	71.
70.	69.	68.	67.	66.	66.	65.	65.	64.	64.
63.	63.	63.	63.	62.	62.	62.	62.	62.	62.
63.	63.	63.	63.	63.	63.	64.	64.	64.	64.
64.	65.	65.	65.	65.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	65.	65.	65.	65.	64.	64.	64.	63.

STORAGE

74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.

PEAK OUTFLOW IS 211. AT TIME 17.75 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	211.	176.	72.	69.	20778.
CMS	6.	5.	2.	2.	588.
INCHES		.25	.41	.41	.41
MM		6.33	10.39	10.39	10.39
AC-FT		87.	143.	143.	143.
THOUS CU M		107.	177.	177.	177.

STATION DAM 7, PLAN 1, RATIO 3

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
1.	1.	1.	1.	1.	2.	2.	2.	3.	3.
4.	4.	5.	6.	6.	7.	8.	8.	9.	10.
10.	11.	12.	13.	14.	14.	15.	16.	17.	17.
18.	19.	20.	21.	21.	22.	23.	23.	24.	25.
25.	26.	26.	27.	28.	28.	29.	29.	30.	30.
31.	32.	32.	33.	33.	34.	34.	35.	36.	37.
37.	38.	40.	41.	42.	44.	46.	48.	50.	52.
54.	57.	59.	62.	65.	68.	72.	75.	78.	82.
86.	89.	93.	97.	101.	105.	109.	113.	117.	121.
125.	129.	133.	137.	141.	145.	150.	156.	163.	171.
181.	192.	202.	211.	219.	226.	233.	240.	247.	255.
262.	270.	278.	286.	293.	301.	307.	313.	318.	322.
325.	328.	329.	330.	330.	330.	329.	328.	327.	325.
323.	321.	318.	315.	313.	310.	307.	305.	302.	299.
297.	295.	292.	290.	288.	286.	284.	282.	280.	279.
277.	276.	275.	274.	273.	272.	272.	271.	271.	270.
270.	270.	269.	269.	269.	268.	268.	267.	267.	266.
266.	265.	264.	263.	262.	261.	260.	258.	257.	256.
254.	253.	251.	249.	248.	246.	244.	242.	240.	238.
236.	234.	232.	230.	228.	225.	223.	221.	219.	216.
214.	212.	209.	207.	204.	201.	198.	194.	191.	187.

STORAGE

74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.

74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	75.	75.	75.
75.	75.	75.	75.	75.	75.	75.	75.	75.	76.
76.	76.	76.	76.	76.	76.	76.	76.	77.	77.
77.	77.	77.	77.	77.	77.	77.	77.	78.	78.
78.	78.	78.	78.	78.	78.	78.	78.	78.	78.
78.	79.	79.	79.	79.	79.	79.	79.	79.	79.
79.	79.	79.	79.	79.	79.	79.	79.	79.	79.
80.	80.	80.	80.	80.	80.	80.	80.	80.	81.
81.	81.	81.	81.	81.	82.	82.	82.	82.	82.
83.	83.	83.	83.	83.	84.	84.	84.	84.	84.
85.	85.	85.	85.	85.	86.	86.	86.	86.	87.
87.	88.	88.	89.	89.	89.	89.	90.	90.	90.
91.	91.	91.	92.	92.	92.	92.	93.	93.	93.
93.	93.	93.	93.	93.	93.	93.	93.	93.	93.
93.	93.	93.	93.	93.	92.	92.	92.	92.	92.
92.	92.	92.	92.	92.	92.	92.	91.	91.	91.
91.	91.	91.	91.	91.	91.	91.	91.	91.	91.
91.	91.	91.	91.	91.	91.	91.	91.	91.	91.
91.	91.	91.	91.	91.	91.	91.	91.	90.	90.
90.	90.	90.	90.	90.	90.	90.	90.	90.	90.
90.	90.	89.	89.	89.	89.	89.	89.	89.	89.
89.	89.	89.	88.	88.	88.	88.	88.	88.	88.

STAGE

650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.1	650.1	650.1
650.1	650.1	650.1	650.1	650.1	650.1	650.1	650.1	650.1	650.1
650.1	650.1	650.1	650.1	650.2	650.2	650.2	650.2	650.2	650.2
650.2	650.2	650.2	650.2	650.2	650.2	650.2	650.2	650.2	650.2
650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.3
650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.3
650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.4	650.4
650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4
650.4	650.4	650.5	650.5	650.5	650.5	650.5	650.5	650.5	650.5
650.5	650.6	650.6	650.6	650.6	650.6	650.6	650.6	650.6	650.7
650.7	650.7	650.7	650.7	650.7	650.7	650.7	650.8	650.8	650.8
650.8	650.9	650.9	650.9	650.9	650.9	651.0	651.0	651.0	651.0
651.0	651.0	651.1	651.1	651.1	651.1	651.1	651.1	651.2	651.2
651.2	651.2	651.2	651.2	651.2	651.2	651.2	651.2	651.2	651.2
651.2	651.2	651.2	651.1	651.1	651.1	651.1	651.1	651.1	651.1
651.1	651.1	651.1	651.1	651.1	651.1	651.1	651.1	651.1	651.1
651.1	651.1	651.1	651.1	651.1	651.1	651.0	651.0	651.0	651.0
651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0
651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0	651.0
651.0	651.0	651.0	651.0	650.9	650.9	650.9	650.9	650.9	650.9

650.9 650.9 650.9 650.9 650.9 650.9 650.9 650.9 650.9 650.8

PEAK OUTFLOW IS 330. AT TIME 17.92 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	330.	288.	117.	113.	33751.
CMS	9.	8.	3.	3.	956.
INCHES		.41	.66	.66	.66
MM		10.38	16.88	16.88	16.88
AC-FT		143.	232.	232.	232.
THOUS CU M		176.	287.	287.	287.

STATION DAM 7, PLAN 1, RATIO 4

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
1.	2.	2.	2.	3.	3.	4.	5.	5.	6.
7.	8.	9.	10.	10.	11.	12.	13.	14.	16.
17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
27.	28.	29.	31.	32.	33.	34.	34.	35.	36.
37.	38.	39.	40.	40.	41.	42.	43.	43.	44.
45.	45.	46.	46.	47.	48.	48.	49.	50.	51.
52.	54.	56.	57.	59.	62.	64.	67.	70.	73.
76.	80.	84.	88.	92.	97.	102.	107.	112.	117.
122.	127.	132.	138.	143.	148.	154.	159.	165.	170.
175.	181.	186.	191.	196.	200.	206.	213.	221.	231.
243.	256.	268.	280.	291.	302.	312.	322.	333.	345.
356.	368.	380.	391.	403.	413.	422.	431.	438.	443.
448.	451.	453.	454.	454.	454.	454.	452.	451.	449.
447.	445.	443.	441.	439.	437.	436.	436.	437.	438.
441.	446.	451.	459.	468.	479.	493.	509.	526.	544.
563.	582.	601.	619.	636.	651.	665.	677.	688.	695.
701.	705.	706.	706.	703.	699.	693.	686.	677.	667.
655.	643.	630.	617.	603.	590.	576.	563.	550.	537.
524.	512.	500.	488.	477.	465.	454.	443.	433.	422.
412.	402.	392.	383.	373.	364.	355.	346.	338.	330.
321.	314.	306.	298.	291.	283.	276.	269.	262.	256.

STORAGE

74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.

651.6	651.6	651.5	651.5	651.5	651.5	651.5	651.4	651.4	651.4
651.4	651.4	651.3	651.3	651.3	651.3	651.3	651.2	651.2	651.2
651.2	651.2	651.2	651.1	651.1	651.1	651.1	651.1	651.1	651.0

EAK OUTFLOW IS 889. AT TIME 20.50 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	889.	689.	251.	241.	72323.
CMS	25.	20.	7.	7.	2048.
INCHES		.98	1.42	1.42	1.42
MM		24.80	36.17	36.17	36.17
AC-FT		342.	498.	498.	498.
THOUS CU M		421.	614.	614.	614.

STATION DAM 7, PLAN 1, RATIO 6

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	1.	1.	1.	1.	2.	2.	3.	3.
4.	5.	6.	7.	8.	9.	10.	11.	13.	14.
15.	17.	19.	20.	22.	24.	27.	30.	33.	38.
42.	48.	54.	61.	69.	78.	87.	98.	109.	121.
134.	148.	162.	175.	188.	201.	214.	227.	240.	253.
266.	280.	293.	307.	321.	334.	348.	362.	375.	389.
402.	416.	429.	441.	454.	467.	479.	491.	503.	516.
527.	539.	551.	563.	576.	588.	601.	615.	629.	644.
660.	678.	698.	720.	745.	772.	802.	835.	871.	912.
957.	1003.	1049.	1095.	1140.	1184.	1227.	1270.	1315.	1362.
1409.	1458.	1506.	1554.	1602.	1651.	1700.	1751.	1804.	1860.
1919.	1981.	2046.	2112.	2180.	2243.	2296.	2344.	2390.	2435.
2483.	2533.	2589.	2650.	2718.	2793.	2877.	2973.	3081.	3203.
3342.	3501.	3682.	3893.	4145.	4438.	4768.	5140.	5551.	5986.
6411.	6762.	7010.	7160.	7302.	7402.	7506.	7628.	7770.	7927.
8092.	8260.	8422.	8574.	8712.	8832.	8936.	9025.	9096.	9148.
9185.	9208.	9222.	9229.	9232.	9233.	9231.	9225.	9214.	9193.
9164.	9126.	9083.	9035.	8985.	8931.	8872.	8806.	8735.	8658.
8575.	8485.	8386.	8279.	8165.	8044.	7917.	7785.	7649.	7510.
7368.	7225.	7080.	6933.	6785.	6635.	6486.	6336.	6187.	6025.
5831.	5620.	5414.	5219.	5038.	4869.	4711.	4562.	4420.	4265.
4154.	4027.	3906.	3795.	3694.	3597.	3503.	3411.	3320.	3230.
3142.	3054.	2968.	2883.	2800.	2718.	2638.	2560.	2485.	2413.
2343.	2274.	2195.	2101.	2004.	1911.	1824.	1745.	1671.	1603.
1539.	1480.	1423.	1368.	1314.	1263.	1213.	1164.	1117.	1071.

STORAGE

74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.

74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	75.	75.	75.	75.	75.	75.	75.	75.	76.
76.	76.	76.	76.	76.	77.	77.	77.	77.	77.
77.	78.	78.	78.	78.	78.	79.	79.	79.	80.
80.	80.	81.	81.	82.	82.	83.	83.	84.	84.
85.	86.	86.	87.	88.	88.	89.	89.	90.	90.
91.	91.	92.	92.	93.	93.	94.	94.	95.	95.
96.	96.	97.	97.	98.	98.	98.	99.	99.	100.
100.	100.	101.	101.	102.	102.	102.	103.	103.	104.
104.	105.	105.	106.	107.	108.	108.	109.	110.	112.
113.	114.	115.	116.	117.	119.	120.	121.	122.	123.
124.	125.	126.	127.	128.	129.	130.	131.	132.	133.
135.	136.	137.	138.	139.	140.	141.	142.	143.	144.
144.	145.	146.	147.	148.	149.	150.	151.	153.	154.
156.	158.	160.	162.	165.	168.	171.	175.	179.	183.
187.	190.	192.	193.	194.	195.	196.	197.	198.	200.
201.	202.	204.	205.	206.	207.	208.	208.	209.	209.
210.	210.	210.	210.	210.	210.	210.	210.	210.	210.
210.	209.	209.	209.	208.	208.	207.	207.	206.	206.
205.	204.	203.	203.	202.	201.	200.	199.	197.	196.
195.	194.	193.	191.	190.	189.	187.	186.	185.	183.
182.	180.	178.	176.	174.	172.	171.	169.	168.	166.
165.	164.	162.	161.	160.	159.	158.	157.	156.	155.
154.	152.	151.	150.	149.	148.	147.	145.	144.	143.
142.	141.	140.	138.	136.	134.	133.	131.	130.	128.
127.	125.	124.	123.	122.	120.	119.	118.	117.	116.

STAGE

650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.1	650.1	650.1	650.1	650.1	650.1	650.1	650.1	650.1
650.1	650.1	650.1	650.2	650.2	650.2	650.2	650.2	650.2	650.2
650.2	650.2	650.3	650.3	650.3	650.3	650.3	650.3	650.3	650.4
650.4	650.4	650.4	650.5	650.5	650.5	650.6	650.6	650.6	650.7
650.7	650.7	650.8	650.8	650.8	650.9	650.9	650.9	651.0	651.0
651.0	651.1	651.1	651.1	651.2	651.2	651.2	651.2	651.3	651.3
651.3	651.4	651.4	651.4	651.4	651.5	651.5	651.5	651.5	651.5
651.6	651.6	651.6	651.6	651.7	651.7	651.7	651.7	651.7	651.8
651.8	651.8	651.9	651.9	651.9	652.0	652.0	652.1	652.1	652.2
652.3	652.3	652.4	652.4	652.5	652.6	652.6	652.7	652.7	652.8
652.8	652.9	652.9	653.0	653.1	653.1	653.2	653.2	653.3	653.3
653.4	653.4	653.5	653.5	653.6	653.7	653.7	653.7	653.8	653.8
653.8	653.9	653.9	654.0	654.0	654.1	654.1	654.2	654.2	654.3
654.4	654.5	654.6	654.7	654.8	654.9	655.1	655.2	655.4	655.6
655.7	655.9	655.9	656.0	656.0	656.1	656.1	656.2	656.2	656.3
656.3	656.4	656.4	656.5	656.5	656.6	656.6	656.6	656.6	656.6
656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7
656.7	656.6	656.6	656.6	656.6	656.6	656.6	656.5	656.5	656.5
656.5	656.4	656.4	656.4	656.3	656.3	656.3	656.2	656.2	656.1
656.1	656.0	656.0	655.9	655.9	655.8	655.8	655.7	655.6	655.6
655.5	655.4	655.3	655.3	655.2	655.1	655.0	655.0	654.9	654.9

654.8	654.7	654.7	654.6	654.6	654.5	654.5	654.4	654.4	654.3
654.3	654.2	654.2	654.1	654.1	654.0	654.0	653.9	653.8	653.8
653.7	653.7	653.6	653.5	653.4	653.4	653.3	653.2	653.1	653.1
653.0	652.9	652.9	652.8	652.7	652.7	652.6	652.5	652.5	652.4

PEAK OUTFLOW IS 9233. AT TIME 18.00 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	9233.	7667.	2717.	2608.	782409.
CMS	261.	217.	77.	74.	22155.
INCHES		10.87	15.40	15.40	15.40
MM		276.08	391.28	391.28	391.28
AC-FT		3802.	5388.	5388.	5388.
THOUS CU M		4690.	6647.	6647.	6647.

STATION DAM 7, PLAN 1, RATIO 7

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
2.	3.	4.	5.	6.	7.	9.	10.	12.	15.
17.	20.	22.	25.	28.	32.	35.	38.	42.	45.
49.	53.	56.	60.	64.	69.	75.	82.	90.	100.
111.	123.	137.	153.	170.	188.	205.	224.	243.	263.
284.	307.	331.	357.	384.	412.	441.	470.	501.	532.
563.	594.	625.	656.	687.	717.	748.	778.	808.	838.
867.	897.	927.	960.	998.	1040.	1084.	1131.	1181.	1232.
1284.	1339.	1395.	1454.	1516.	1580.	1649.	1724.	1806.	1898.
1996.	2092.	2188.	2288.	2394.	2506.	2624.	2745.	2866.	2985.
3099.	3206.	3304.	3391.	3469.	3538.	3602.	3665.	3728.	3792.
3854.	3913.	3970.	4023.	4075.	4132.	4195.	4267.	4348.	4439.
4540.	4648.	4764.	4884.	5009.	5139.	5273.	5413.	5558.	5710.
5870.	6038.	6213.	6381.	6528.	6658.	6783.	6908.	7034.	7164.
7299.	7436.	7579.	7728.	7893.	8088.	8345.	8693.	9146.	9678.
10219.	10713.	11149.	11532.	11772.	12017.	12673.	13625.	14632.	15697.
16740.	17689.	18498.	19152.	19655.	20024.	20283.	20449.	20541.	20573.
20559.	20513.	20444.	20360.	20265.	20159.	20041.	19908.	19750.	19561.
19338.	19082.	18796.	18483.	18145.	17783.	17400.	16995.	16571.	16136.
15695.	15253.	14815.	14382.	13960.	13555.	13171.	12808.	12409.	11970.
11564.	11211.	10909.	10652.	10437.	10263.	10129.	10039.	9916.	9720.
9497.	9264.	9030.	8803.	8589.	8383.	8182.	7983.	7785.	7588.
7391.	7195.	7001.	6809.	6621.	6437.	6259.	6071.	5852.	5614.
5382.	5162.	4957.	4765.	4586.	4418.	4259.	4109.	3968.	3842.
3730.	3626.	3527.	3433.	3341.	3252.	3166.	3081.	2999.	2919.
2841.	2764.	2687.	2613.	2541.	2471.	2403.	2338.	2275.	2208.

STORAGE

74.	74.	74.	74.	74.	74.	74.	74.	74.	74.

74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	74.	74.	74.	74.	74.
74.	74.	74.	74.	74.	75.	75.	75.	75.	75.
75.	75.	76.	76.	76.	76.	77.	77.	77.	77.
78.	78.	78.	78.	79.	79.	79.	80.	80.	80.
80.	81.	81.	81.	81.	82.	82.	82.	83.	83.
84.	85.	85.	86.	87.	88.	88.	89.	90.	91.
92.	92.	93.	94.	95.	96.	97.	98.	99.	100.
101.	102.	103.	104.	105.	106.	107.	108.	109.	109.
110.	111.	112.	113.	114.	115.	116.	117.	118.	120.
121.	122.	124.	125.	126.	128.	129.	131.	132.	134.
136.	138.	139.	141.	143.	145.	146.	148.	150.	151.
153.	154.	156.	157.	158.	158.	159.	160.	160.	161.
162.	163.	163.	164.	164.	165.	166.	166.	167.	168.
169.	170.	171.	173.	174.	175.	176.	178.	179.	180.
182.	183.	185.	186.	188.	189.	190.	191.	192.	193.
194.	196.	197.	198.	199.	201.	203.	206.	209.	214.
218.	221.	225.	227.	229.	231.	236.	242.	249.	257.
266.	270.	275.	279.	283.	285.	287.	288.	288.	288.
288.	288.	288.	287.	286.	286.	285.	284.	283.	282.
281.	279.	277.	275.	273.	271.	268.	265.	263.	260.
257.	254.	251.	248.	245.	242.	239.	237.	234.	231.
228.	225.	223.	221.	219.	218.	217.	216.	215.	214.
212.	210.	209.	207.	205.	203.	202.	200.	199.	197.
195.	194.	192.	190.	189.	187.	185.	184.	182.	180.
177.	175.	173.	171.	170.	168.	166.	165.	163.	162.
161.	159.	158.	157.	156.	155.	154.	153.	152.	151.
150.	148.	147.	146.	145.	144.	143.	142.	141.	140.

STAGE

650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0	650.0
650.0	650.0	650.0	650.0	650.0	650.0	650.1	650.1	650.1	650.1
650.1	650.1	650.1	650.1	650.1	650.2	650.2	650.2	650.2	650.2
650.2	650.3	650.3	650.3	650.3	650.3	650.3	650.4	650.4	650.4
650.4	650.4	650.4	650.5	650.5	650.5	650.5	650.5	650.6	650.6
650.6	650.7	650.7	650.8	650.8	650.8	650.9	650.9	651.0	651.0
651.1	651.1	651.2	651.2	651.3	651.3	651.4	651.5	651.5	651.6
651.6	651.7	651.7	651.8	651.8	651.9	651.9	652.0	652.0	652.1
652.1	652.2	652.2	652.3	652.3	652.4	652.4	652.5	652.6	652.6
652.7	652.8	652.8	652.9	653.0	653.0	653.1	653.2	653.3	653.4
653.4	653.5	653.6	653.7	653.8	653.9	653.9	654.0	654.1	654.2
654.2	654.3	654.4	654.4	654.5	654.5	654.5	654.6	654.6	654.6
654.7	654.7	654.7	654.7	654.8	654.8	654.8	654.8	654.9	654.9
655.0	655.0	655.1	655.1	655.2	655.2	655.3	655.3	655.4	655.5
655.5	655.6	655.7	655.7	655.8	655.8	655.9	655.9	656.0	656.0
656.0	656.1	656.1	656.2	656.2	656.3	656.4	656.5	656.6	656.8
657.0	657.1	657.2	657.3	657.4	657.5	657.7	657.9	658.1	658.4
658.7	658.9	659.0	659.2	659.3	659.4	659.4	659.5	659.5	659.5
659.5	659.5	659.5	659.4	659.4	659.4	659.4	659.4	659.3	659.3
659.2	659.2	659.1	659.0	659.0	658.9	658.8	658.7	658.6	658.5
658.4	658.3	658.2	658.1	658.0	657.9	657.8	657.7	657.6	657.5
657.4	657.3	657.2	657.1	657.0	657.0	656.9	656.9	656.9	656.8

	656.6	656.5	656.5	656.4	656.3	656.3	656.2	656.1
	655.9	655.9	655.8	655.7	655.7	655.6	655.5	655.4
	655.2	655.1	655.0	654.9	654.8	654.8	654.7	654.6
	654.5	654.4	654.4	654.3	654.3	654.2	654.2	654.1
	654.0	653.9	653.9	653.8	653.8	653.7	653.7	653.6

20573. AT TIME 17.50 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	20573.	14534.	5322.	5109.	1532677.
CMS	583.	412.	151.	145.	43401.
INCHES		20.60	30.18	30.18	30.18
MM		523.32	766.49	766.49	766.49
AC-FT		7207.	10556.	10556.	10556.
THOUS CU M		8889.	13020.	13020.	13020.

********** ********** ********** ********** **********

PEAK FLOW AND STORAGE (END OF PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND (CUBIC METERS PER SECOND)
AREA IN SQUARE MILES (SQUARE KILOMETERS)

				RATIOS APPLIED TO FLOWS						
PERATION	STATION	AREA	PLAN	RATIO 1 .01	RATIO 2 .02	RATIO 3 .03	RATIO 4 .04	RATIO 5 .05	RATIO 6 .50	RATIO 7 1.00
YDROGRAPH AT	AREA 1	3.37	1	122.	244.	366.	488.	610.	6097.	12194.
		(8.73)	(	3.45)(	6.91)(	10.36)(	13.81)(	17.26)(	172.65)(	345.30)(
OUTED TO	DAM 1	3.37	1	84.	186.	329.	2266.	2523.	6077.	12181.
		(8.73)	(	2.37)(	5.26)(	9.31)(	64.16)(	71.45)(	172.07)(	344.94)(
YDROGRAPH AT	AREA 2	.19	1	21.	43.	64.	86.	107.	1074.	2148.
		(.50)	(	.61)(	1.22)(	1.82)(	2.43)(	3.04)(	30.41)(	60.82)(
OUTED TO	DAM 2	.19	1	1.	2.	9.	13.	15.	968.	1291.
		(.50)	(	.03)(	.06)(	.25)(	.37)(	.41)(	27.40)(	36.57)(
YDROGRAPH AT	AREA 3	.05	1	9.	18.	27.	37.	46.	458.	917.
		(.13)	(	.26)(	.52)(	.78)(	1.04)(	1.30)(	12.98)(	25.96)(
2 COMBINED	3	.24	1	10.	20.	29.	39.	55.	1029.	1542.
		(.63)	(	.28)(	.55)(	.83)(	1.11)(	1.56)(	29.13)(	43.66)(
OUTED TO	DAM 3	.24	1	2.	5.	9.	16.	19.	1126.	1356.
		(.63)	(	.06)(	.13)(	.26)(	.46)(	.54)(	31.89)(	38.39)(

HYDROGRAPH AT	AREA 4	.38	1	62.	85.	127.	169.	211.	2113.	4225.
		(.97)	(	1.20)(	2.39)(	3.59)(	4.79)(	5.98)(	59.82)(	119.65)(
3 COMBINED	4	3.99	1	86.	191.	353.	2283.	2575.	6707.	13421.
		(10.33)	(	2.44)(	5.40)(	10.00)(	64.63)(	72.92)(	189.91)(	380.05)(
ROUTED TO	DAM 4	3.99-	1	68.	153.	269.	966.	1073.	6609.	13396.
		(10.33)	(	1.93)(	4.35)(	7.62)(	27.36)(	30.39)(	187.13)(	379.32)(
ROUTED TO	CHAN 5	3.99	1	67.	151.	265.	878.	1001.	6473.	13366.
		(10.33)	(	1.89)(	4.26)(	7.51)(	24.85)(	28.35)(	183.29)(	378.50)(
HYDROGRAPH AT	AREA 5	.81	1	49.	97.	146.	194.	243.	2428.	4856.
		(2.11)	(	1.37)(	2.75)(	4.12)(	5.50)(	6.87)(	68.75)(	137.50)(
2 COMBINED	5	4.80	1	68.	153.	271.	891.	1053.	7289.	15294.
		(12.44)	(	1.93)(	4.34)(	7.68)(	25.23)(	29.82)(	206.41)(	433.07)(
ROUTED TO	DAM 5	4.80	1	67.	153.	269.	842.	939.	7236.	15266.
		(12.44)	(	1.89)(	4.32)(	7.61)(	23.84)(	26.60)(	204.90)(	432.28)(
ROUTED TO	CHAN 6	4.80	1	64.	147.	253.	736.	873.	7125.	15110.
		(12.44)	(	1.82)(	4.18)(	7.16)(	20.79)(	24.71)(	201.77)(	427.87)(
HYDROGRAPH AT	AREA 6	1.46	1	66.	132.	199.	265.	331.	3312.	6624.
		(3.78)	(	1.88)(	3.75)(	5.63)(	7.50)(	9.38)(	93.78)(	187.56)(
2 COMBINED	6	6.26	1	99.	214.	341.	760.	927.	10020.	20377.
		(16.22)	(	2.80)(	6.05)(	9.66)(	21.53)(	26.25)(	283.74)(	577.00)(
ROUTED TO	DAM 6	6.26	1	98.	207.	323.	725.	902.	8959.	19950.
		(16.22)	(	2.79)(	5.86)(	9.15)(	20.54)(	25.55)(	253.69)(	564.93)(
HYDROGRAPH AT	AREA 7	.30	1	22.	45.	67.	90.	112.	1120.	2239.
		(.77)	(	.63)(	1.27)(	1.90)(	2.54)(	3.17)(	31.70)(	63.40)(
2 COMBINED	7	6.56	1	106.	221.	343.	727.	905.	9235.	20594.
		(17.00)	(	3.00)(	6.25)(	9.71)(	20.60)(	25.61)(	261.49)(	583.16)(
ROUTED TO	DAM 7	6.56	1	96.	211.	330.	706.	889.	9233.	20573.
		(17.00)	(	2.73)(	5.98)(	9.35)(	20.00)(	25.18)(	261.44)(	582.56)(

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	786.60	786.60	790.40
STORAGE	49.	49.	99.
OUTFLOW	0.	0.	452.

elch Lake Dam
(MO 10733)

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
.01	788.62	.00	70.	84.	.00	19.00	.00
.02	789.68	.00	86.	186.	.00	18.75	.00
.03	790.14	.00	94.	329.	.00	18.25	.00
.04	790.41	.01	99.	2266.	.29	18.75	17.75
.05	790.49	.09	101.	2523.	.48	18.00	17.00
.50	791.42	1.02	120.	6077.	2.75	17.67	9.58
1.00	793.20	2.80	164.	12181.	5.94	17.58	8.42

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	799.50	799.50	805.00
STORAGE	29.	29.	67.
OUTFLOW	0.	0.	77.

u/s Hagen Lake Dam

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
.01	799.99	.00	32.	1.	.00	18.33	.00
.02	800.46	.00	35.	2.	.00	18.33	.00
.03	800.79	.00	37.	9.	.00	18.08	.00
.04	801.06	.00	38.	13.	.00	18.08	.00
.05	801.44	.00	41.	15.	.00	18.08	.00
.50	805.16	.16	68.	968.	.60	14.83	13.83
1.00	805.03	.03	67.	1291.	.40	15.92	11.75

FLOOD HYDROGRAPH PACKA - HEC-1 PROGRAM H21/02-1V TIME 17:32 CASE PMF

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1		INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
	ELEVATION	784.40	784.40	785.00
	STORAGE	66.	66.	70.
	OUTFLOW	0.	0.	61.

Hagen Lake Dam (MO 11057)

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
.01	784.45	.00	66.	2.	.00	16.00	.00
.02	784.51	.00	67.	5.	.00	16.00	.00
.03	784.61	.00	67.	9.	.00	18.17	.00
.04	784.71	.00	68.	16.	.00	18.00	.00
.05	784.74	.00	68.	19.	.00	17.08	.00
.50	785.01	.01	70.	1126.	.25	14.08	13.08
1.00	785.03	.03	70.	1356.	.31	16.08	11.33

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	762.50	762.50	770.00
STORAGE	122.	122.	289.
OUTFLOW	0.	0.	1419.

Waters Edge Estate Lake Dam
(MO 12108)

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
.01	763.48	.00	139.	68.	.00	20.83	.00
.02	764.20	.00	153.	153.	.00	20.08	.00
.03	765.01	.00	169.	269.	.00	19.50	.00
.04	768.35	.00	245.	966.	.00	19.00	.00
.05	768.83	.00	257.	1073.	.00	18.33	.00
.50	770.71	.71	309.	6609.	.75	14.83	13.83
1.00	771.85	1.85	344.	13396.	4.10	17.58	9.67

PLAN 1 STATION CHAN 5

RATIO	MAXIMUM FLOW,CFS	MAXIMUM STAGE,FT	TIME HOURS
.01	67.	740.5	21.42
.02	151.	741.1	20.75
.03	265.	741.7	19.83
.04	878.	743.1	19.42
.05	1001.	743.3	18.67
.50	6473.	747.6	18.17
1.00	13366.	750.2	17.75

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	723.00	723.00	738.00
STORAGE	0.	0.	180.
OUTFLOW	0.	0.	3505.

To Embankment

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
.01	724.50	.00	6.	67.	.00	22.08	.00
.02	725.35	.00	9.	153.	.00	21.00	.00
.03	726.13	.00	12.	269.	.00	20.08	.00
.04	730.00	.00	26.	942.	.00	19.67	.00
.05	730.34	.00	33.	939.	.00	19.17	.00
.50	741.27	3.27	276.	7236.	6.17	18.25	.00
1.00	743.39	5.39	373.	15266.	9.50	17.67	.00

PLAN 1 STATION CHAN 6

RATIO	MAXIMUM FLOW,CFS	MAXIMUM STAGE,FT	TIME HOURS
.01	64.	700.2	23.00
.02	147.	700.5	21.92
.03	253.	700.8	21.00
.04	734.	701.9	20.33
.05	873.	702.1	19.92
.50	7125.	706.2	18.50
1.00	15110.	708.6	17.92

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	657.00	657.00	687.00
STORAGE	0.	0.	522.
OUTFLOW	0.	0.	9914.

HWY-63 Embankment

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
.01	658.63	.00	2.	98.	.00	17.08	.00
.02	660.12	.00	3.	207.	.00	17.33	.00
.03	660.92	.00	7.	323.	.00	17.42	.00
.04	663.69	.00	22.	725.	.00	20.75	.00
.05	664.91	.00	28.	902.	.00	20.17	.00
.50	685.50	.00	461.	8959.	.00	18.00	.00
1.00	692.77	5.77	848.	19950.	4.50	17.50	.00

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	650.00	650.00	651.80
STORAGE	74.	74.	104.
OUTFLOW	0.	0.	662.

Moon Valley Dam (MO 11597)

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
.01	650.59	.00	83.	96.	.00	17.75	.00
.02	650.91	.00	89.	211.	.00	17.75	.00
.03	651.18	.00	93.	330.	.00	17.92	.00
.04	651.87	.07	106.	706.	1.17	21.08	.00
.05	652.16	.36	111.	889.	2.92	20.50	.00
.50	656.68	4.88	210.	9233.	14.08	18.00	.00
1.00	659.49	7.69	288.	20573.	16.33	17.50	.00

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**********
FLOOD HYDROGRAPH PACKAGE (HEC-1)
DAM SAFETY VERSION      JULY 1978
  LAST MODIFICATION  01 APR 80
**********
     1  A1MISSOURI DAM INSPECTION PROGRAM   H219457*MDI.MOONVALLEY
     2  A2ST. LOUIS DISTRICT US ARMY CORPS OF ENGINEERS
     3  A3MOON VALLEY DAM & OTHER UPSTREAM RESERVOIRS (10-YEAR FREQUENCY STORM)
     4  B     288       0       5       0       0       0       0       0       0       0
     5  B1      3
     6  K       0  AREA 1                                       3       1
     7  K1INFLOW TO WELCH LAKE
     8  M       0       2 3.37                          1.0
     9  O     288   5.213
    10  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    11  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    12  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    13  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    14  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    15  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    16  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    17  O1  .005    .005    .011    .011    .011    .011    .011    .011    .011    .011
    18  O1  .011    .011    .011    .011    .011    .011    .011    .011    .011    .011
    19  O1  .011    .011    .011    .011    .011    .011    .011    .011    .011    .011
    20  O1  .011    .011    .011    .011    .011    .011    .011    .011    .015    .015
    21  O1  .015    .015    .015    .015    .015    .015    .015    .015    .015    .015
    22  O1  .015    .015    .015    .015    .015    .015    .029    .029    .029    .029
    23  O1  .029    .029    .059    .059    .059    .060    .060    .060    .079    .079
    24  O1  .079    .151    .151    .373    .593    .259    .151    .079    .079    .079
    25  O1  .060    .060    .060    .060    .059    .059    .029    .029    .029    .029
    26  O1  .029    .029    .015    .015    .015    .015    .015    .015    .015    .015
    27  O1  .015    .015    .015    .015    .015    .015    .015    .015    .015    .015
    28  O1  .011    .011    .011    .011    .011    .011    .011    .011    .011    .011
    29  O1  .011    .011    .011    .011    .011    .011    .011    .011    .011    .011
    30  O1  .011    .011    .011    .011    .011    .011    .011    .011    .011    .011
    31  O1  .011    .011    .011    .011    .011    .011    .005    .005    .005    .005
    32  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    33  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    34  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    35  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    36  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    37  O1  .005    .005    .005    .005    .005    .005    .005    .005    .005    .005
    38  O1  .005    .005    .005    .005    .005    .005    .005    .005
    39  I                                                   -1      -74
    40  M2          1.92
    41  X                   1
    42  K       1  DAM 1                                        1
    43  K1   ROUTING THROUGH WELCH LAKE DAM
    44  Y                                   1       1
    45  Y1      1                                       -786.6      -1
    46  Y4 786.6   787.0   787.4   787.5   788.0   788.5   789.0   789.5   790.0   790.5
    47  Y4 791.0   792.0   793.0   794.0   795.0   796.0
    48  Y5    0.      6.     11.     18.     45.     75.    110.    147.    194.    244.
    49  Y5  279.    371.    464.    538.    581.    627.
    50  SA    0.     7.7    18.2    52.5
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$E 767.6   786.6    790.    800.
$$ 786.6
$D 790.4
$L    0.     30.     45.     71.    141.    320.    372.    494.    549.    632.
$V 789.3   789.4   789.6   789.8   790.5   790.8   791.0   791.5   792.3   795.2
$P   10.      .5    772.     1.0   786.6   790.4
K      0  AREA 2                                3       1
K1  RUNOFF CALCULATIONS FOR U/S HAGAN LAKE
M      0       2 .193                   1.0
O   -288
T                                                      -1     -84
W2          .186
X                      1
K      1   DAM 2                                       1
K1   ROUTE HYDROGRAPH THROUGH U/S HAGAN LAKE DAM
Y                                1       1
Y1     1                                          -799.5      -1
Y4 799.5   800.6   800.9  804.69  804.97   805.1  805.24  805.53  805.81 806.38
Y4807.23  808.13  809.03
Y5    0.     2.5    12.4    27.8      70      99     189     465     806 1678.
Y53317.   5458.   7929.
$A    0.       1       3     5.5     8.5      12
$E   785     790     795     800     805     810
$$ 799.5
$D   805
$B   10.      .5   794.7       1  799.5   805.0
K      0  AREA 3                                3       1
K1  RUNOFF CALCULATIONS FOR HAGAN LAKE (MO 11057)
M      0       2 .051                   1.0
O   -288
T                                                      -1     -84
W2          .034
X                      1
K      2       3                                       1
K1 COMBINE HYDROGRAPHS-TOTAL INFLOW TO HAGAN LAKE (MO 11057)
K      1   DAM 3                                       1
K1   ROUTE HYDROGRAPH THROUGH HAGAN LAKE DAM (MO 11057)
Y                                1       1
Y1     1                                          -784.4      -1
Y4 784.4  784.68  784.95  785.22  785.47  785.73    786.  786.28  786.56 786.84
Y4787.14  787.44  787.74  788.04  788.34  788.64
Y5    0.      12      47     121     232     395     645    1005    1480 2075.
Y5  2802    3606    4483    5427    6435    7503
$A    0.       1       3     6.5     9.5    15.5
$E   755     765     775   784.4     790     800
$$ 784.4
$D   785
$B   10.      .5    770.       1   784.4   785.0
K      0  AREA 4                                3       1
K1 RUNOFF CALCULATIONS FOR WATERS EDGE ESTATE LAKE (MO 12102)
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```
M      0       2 .375                  1.0
O   -288
T                                                      -1     -84
W2          0.17
X                      1
K      3       4                                       1
K1COMBINE HYDROGRAPHS-TOTAL INFLOW TO MO.12102
K      1   DAM 4                                       1
K1ROUTE THROUGH WATERS EDGE ESTATE LAKE DAM (MO 12102)
Y                                  1       1
Y1     1                                          -762.5      -1
Y4762.5  763.33  764.59  765.82  769.40  770.14   770.6  771.45  772.12 773.75
Y4775.36
Y5    0.      50     200     400    1200    1470    2150    4020    5980 12000.
Y5 19520
$A    0.       3      14      17      28      50
$E   745     750     760   762.5     770     780
$$ 762.5
$D   770
$B   10.      .5    746.       1   762.5    770.
K      1  CHAN 5                                       1
K1   CHANNEL ROUTING TO I-70 EMBANKMENT
Y                                  1       1
Y1     1
Y6 0.070   0.050   0.070    740.    770.   4500.  0.0047
Y7    0.    770.     80.    760.    120.    750.    280.    740.    320.  740.
Y7  460.    750.    520.    760.    580.    770.
K      0  AREA 5                                3       1
K1 INFLOW TO I-70 EMBANKMENT
M      0       2 0.813                 1.0
O   -288
T                                                      -1     -71
W2          0.694
X                      1
K      2       5                                       1
K1 COMBINE HYDROGRAPHS-TOTAL INFLOW TO I-70 (OUTFLOW FROM MO.12102 & AREA 5)
K      1   DAM 5                                       1
K1   ROUTING THROUGH I-70 EMBANKMENT
Y                                  1       1
Y1     1                                          -723.0      -1
Y4  723.    724.    725.    730.    735.    738.    750.
Y5    0.     32.    101.    841.   2270.   3504.   3505.
$S   0.0    26.3    219.    673.
$E  723.    730.    740.    750.
$$  723.
$D  738.
$L    0.     30.    310.   1390.
$V 737.9    738.    740.    750.
K      1  CHAN 6                                       1
K1   CHANNEL ROUTING TO HIGHWAY 63 EMBANKMENT
```

```
Y                                   1       1
Y1      1
Y6 0.070   0.050   0.070    700.    730.  10400.  0.0063
Y7    0.    730.     40.    720.    100.    710.    280.    700.    360.    700.
Y7  560.    710.    760.    720.    920.    730.
K       0  AREA 6                                  3       1
K1  INFLOW TO HIGHWAY 63 EMBANKMENT
M       0       2 1.461                     1.0
O   -288
T                                                          -1     -71
W2          1.192
X                       1
K       2       6                                          1
K1COMBINE HYDROGRAPHS-TOTAL INFLOW TO HWY 63(OUTFLOW FROM HWY 63 & AREA 6)
K       1   DAM 6                                          1
K1   ROUTING THROUGH HIGHWAY 63 EMBANKMENT
Y                                   1       1
Y1      1                                           -657.0      -1
Y4  657.    658.    660.    665.    670.    675.    680.    685.    687.  700.
Y5    0.     33.    190.    915.   2083.   3728.   5898.   8643.   9913.  9914.
$S    0.     2.6    54.6    234.    646.   1377.
$E  657.    660.    670.    680.    690.    700.
$$  657.
$D  687.
$L    0.     39.    340.   1180.
$V 686.9    687.    690.    770.
K       0  AREA 7                                  3       1
K1 INFLOW TO MOON VALLEY LAKE
M       0       2   0.299                      1.0
O   -288
T                                                          -1     -71
W2          0.447
X                       1
K       2       7                                          1
K1   COMBINE HYDROGRAPHS-TOTAL INFLOW TO MOON VALLEY LAKE
K       1   DAM 7                                          1
K1   ROUTING THROUGH MOON VALLEY DAM
Y                                   1       1
Y1      1                                           -650.0
$A    0.    15.8    31.1
$E  636.    650.    660.
$$  650.
$D 651.8
$L    0.     61.     85.     99.     99.    151.    226.    318.    362.465.
$V 650.0   650.1   650.3   650.4   651.8   653.2   653.8   654.4   656.0660.0
K      99
```

FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:49:04 CASE PMF

PREVIEW OF SEQUENCE OF STREAM NETWORK CALCULATIONS

```
RUNOFF HYDROGRAPH AT      AREA 1
ROUTE HYDROGRAPH TO        DAM 1
RUNOFF HYDROGRAPH AT      AREA 2
ROUTE HYDROGRAPH TO        DAM 2
RUNOFF HYDROGRAPH AT      AREA 3
COMBINE  2 HYDROGRAPHS AT      3
ROUTE HYDROGRAPH TO        DAM 3
RUNOFF HYDROGRAPH AT      AREA 4
COMBINE  3 HYDROGRAPHS AT      4
ROUTE HYDROGRAPH TO        DAM 4
ROUTE HYDROGRAPH TO       CHAN 5
RUNOFF HYDROGRAPH AT      AREA 5
COMBINE  2 HYDROGRAPHS AT      5
ROUTE HYDROGRAPH TO        DAM 5
ROUTE HYDROGRAPH TO       CHAN 6
RUNOFF HYDROGRAPH AT      AREA 6
COMBINE  2 HYDROGRAPHS AT      6
ROUTE HYDROGRAPH TO        DAM 6
RUNOFF HYDROGRAPH AT      AREA 7
COMBINE  2 HYDROGRAPHS AT      7
ROUTE HYDROGRAPH TO        DAM 7
END OF NETWORK
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AD-A106 460 BLACK AND VEATCH KANSAS CITY MO F/G 13/13
NATIONAL DAM SAFETY PROGRAM, MOON VALLEY DAM (MO 11597), MISSOU--ETC(U)
AUG 81 E R BURTON, H L CALLAHAN DACW43-81-C-0037
UNCLASSIFIED NL

FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:49:04 CASE PMF

1.01	23.45	285	23.75	268.	289.	92.	651.1
1.01	23.50	286	23.83	265.	285.	92.	651.1
1.01	23.55	287	23.92	263.	282.	91.	651.1
1.02	.00	288	24.00	260.	278.	91.	651.1

PEAK OUTFLOW IS 2361. AT TIME 17.42 HOURS

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2361.	1483.	481.	481.	138399.
CMS	67.	42.	14.	14.	3919.
INCHES		2.10	2.72	2.72	2.72
MM		53.38	69.21	69.21	69.21
AC-FT		735.	953.	953.	953.
THOUS CU M		907.	1176.	1176.	1176.

********** ********** ********** ********** **********

RUNOFF SUMMARY, AVERAGE FLOW IN CUBIC FEET PER SECOND (CUBIC METERS PER SECOND)
AREA IN SQUARE MILES(SQUARE KILOMETERS)

		PEAK	6-HOUR	24-HOUR	72-HOUR	AREA
HYDROGRAPH AT	AREA 1	1274.	710.	218.	218.	3.37
		(36.06)(	20.11)(	6.18)(	6.18)(	8.73)
ROUTED TO	DAM 1	3301.	842.	242.	242.	3.37
		(93.49)(	23.84)(	6.85)(	6.85)(	8.73)
HYDROGRAPH AT	AREA 2	393.	59.	18.	18.	.19
		(11.14)(	1.67)(	.51)(	.51)(	.50)
ROUTED TO	DAM 2	22.	21.	10.	10.	.19
		(.62)(	.61)(	.29)(	.29)(	.50)
HYDROGRAPH AT	AREA 3	164.	16.	5.	5.	.05
		(4.66)(	.44)(	.14)(	.14)(	.13)
2-COMBINED	3	175.	34.	15.	15.	.24
		(4.97)(	.97)(	.42)(	.42)(	.63)
ROUTED TO	DAM 3	56.	32.	14.	14.	.24
		(1.58)(	.91)(	.39)(	.39)(	.63)
HYDROGRAPH AT	AREA 4	779.	114.	35.	35.	.38
		(22.06)(	3.24)(	1.00)(	1.00)(	.97)
3-COMBINED	4	3370.	928.	291.	291.	3.99
		(95.43)(	26.27)(	8.24)(	8.24)(	10.33)

ROUTED TO	DAM 4	4763.	1223.	352.	352.	3.99
		(134.88)(	34.62)(	9.97)(	9.97)(	10.33)
ROUTED TO	CHAN 5	4054.	1219.	349.	349.	3.99
		(114.79)(	34.53)(	9.87)(	9.87)(	10.33)
HYDROGRAPH AT	AREA 5	537.	165.	50.	50.	.81
		(15.20)(	4.69)(	1.41)(	1.41)(	2.11)
2-COMBINED	5	4114.	1330.	398.	398.	4.80
		(116.50)(	37.66)(	11.28)(	11.28)(	12.44)
ROUTED TO	DAM 5	2876.	1316.	394.	394.	4.80
		(81.43)(	37.27)(	11.15)(	11.15)(	12.44)
ROUTED TO	CHAN 6	2470.	1279.	385.	385.	4.80
		(69.95)(	36.23)(	10.90)(	10.90)(	12.44)
HYDROGRAPH AT	AREA 6	691.	293.	88.	88.	1.46
		(19.57)(	8.29)(	2.50)(	2.50)(	3.78)
2-COMBINED	6	2586.	1484.	473.	473.	6.26
		(73.23)(	42.03)(	13.41)(	13.41)(	16.22)
ROUTED TO	DAM 6	2368.	1469.	471.	471.	6.26
		(67.06)(	41.60)(	13.34)(	13.34)(	16.22)
HYDROGRAPH AT	AREA 7	256.	61.	18.	18.	.30
		(7.25)(	1.73)(	.52)(	.52)(	.77)
2-COMBINED	7	2387.	1492.	489.	489.	6.56
		(67.59)(	42.25)(	13.86)(	13.86)(	17.00)
ROUTED TO	DAM 7	2361.	1483.	481.	481.	6.56
		(66.87)(	41.98)(	13.61)(	13.61)(	17.00)

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	786.60	786.60	790.40
STORAGE	49.	49.	99.
OUTFLOW	0.	0.	361.

Welch Lake Dam (MO 10733)

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
1.00	790.94	.54	110.	3301.	.77	14.50	13.50

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	799.50	799.50	805.00
STORAGE	29.	29.	67.
OUTFLOW	0.	0.	77.

u/s Hayes Lake Dam

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
1.00	803.24	.00	53.	22.	.00	13.92	.00

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SUMMARY OF DAM SAFETY ANALYSIS

Hagan Lake Dam (MO 11057)

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	784.40	784.40	785.00
STORAGE	66.	66.	70.
OUTFLOW	0.	0.	61.

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
1.00	784.98	.00	70.	56.	.00	12.33	.00

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	762.50	762.50	770.00
STORAGE	122.	122.	289.
OUTFLOW	0.	0.	1419.

ers Edge Estate Lake Dam
(MO 12102)

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
1.00	770.23	.23	295.	4763.	.46	15.75	14.75

STATION CHAN 5

RATIO	MAXIMUM FLOW,CFS	MAXIMUM STAGE,FT	TIME HOURS
1.00	4054.	746.2	15.83

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	723.00	723.00	738.00
STORAGE	0.	0.	180.
OUTFLOW	0.	0.	3505.

I-70 Embankment

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
1.00	736.47	.00	151.	2876.	.00	16.25	.00

STATION CHAN 6

RATIO	PAXIMUM FLOW,CFS	PAXIMUM STAGE,FT	TIME HOURS
1.00	2470.	703.6	16.75

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	657.00	657.00	687.00
STORAGE	0.	0.	522.
OUTFLOW	0.	0.	9914.

63 Embankment

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
1.00	670.87	.00	70.	2368.	.00	17.17	.00

FLOOD HYDROGRAPH PACKAGE - HEC-1 PROGRAM H21/02-1V TIME 17:49:04 CASE PMF

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1 .....

	INITIAL VALUE	SPILLWAY CREST	TOP OF DAM
ELEVATION	650.00	650.00	651.80
STORAGE	74.	74.	104.
OUTFLOW	0.	0.	662.

MOON VALLEY Dam (MO11597)

RATIO OF PMF	MAXIMUM RESERVOIR W.S.ELEV	MAXIMUM DEPTH OVER DAM	MAXIMUM STORAGE AC-FT	MAXIMUM OUTFLOW CFS	DURATION OVER TOP HOURS	TIME OF MAX OUTFLOW HOURS	TIME OF FAILURE HOURS
1.00	653.75	1.95	142.	2361.	7.00	17.42	.00

END

DATE
FILMED

12-81

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